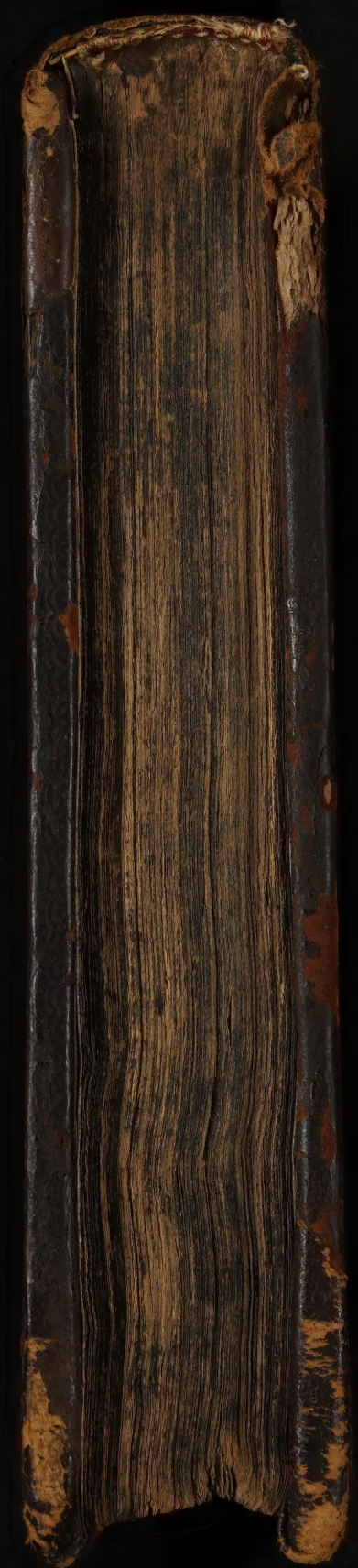


SWEATING
SICKNESS
—
STUBBE.

LONDON
1671.







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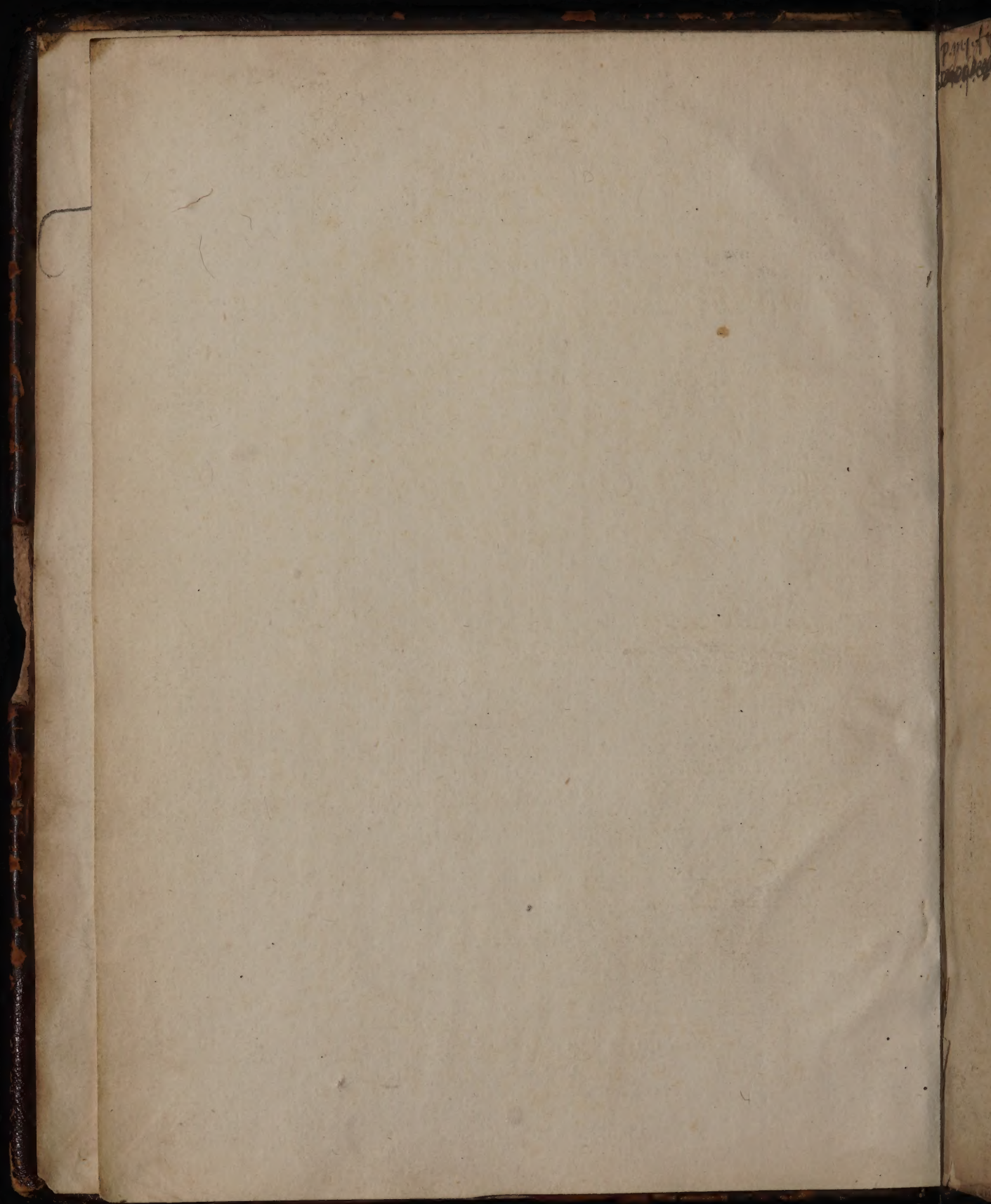
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THE
Lord Bacons
Cha: Relation of the *Jackson*
SWEATING-SICKNESS
Examined, in a
REPLY

TO
GEORGE THOMSON,
Pretender to
Physick and Chymistry.

Together with
A Defence of PHLEBOTOMY
In general, and also particularly

In the {SPLAGUE, } SCURVEY, and
{SMALL-POX, } PLEURISIE.
In Opposition to the same Author, and the Author of
Medela Medicina, Doctor *Whitaker*, and Doctor *Sydenham*.

ALSO
A Relation concerning the strange Symptoms happening
upon the Bite of an ADDER.

AND
A REPLY, by way of Preface to the Calumnies of
Eccebolius Glandvile.

By *Henry Stubbe* Physician at *Warwick*.

Nec temerè nec timide.

London, Printed for *Phil. Brigs*, and are to be Sold by Book-
Sellers in London. 1671.

THE
Lord Bacon

Relation of the

SWEETNESS

47192

Examined in a

REPLY

TO

GEORGE THOMSON

A Defence of PHLEBOTOMY





TO THE
READER.

Reader,

YOU are to take notice that the Author whensoever he names his Adversary hath chosen rather to affix a *Black line*, than to give him the Title of *Doctor*: not out of any *contempt*, or that he would deny him what is his *due* and *right*, though by *PURCHASE*: but he could not be any way informed that he was any *Graduate*, though he write himself *M. D.* nor do any of the *Colledge* own any such thing. As for what is said, that He purchased a *DOCTORAL DIPLOMA* to justify his practice Legally in any place of the world. *H. S.* professeth he doth not understand whether this import any more than a *LICENCE* to *PRACTISE*, which looeth much of its validity

To the Reader.

validity and repete by being a **CONFESSED
PURCHASE** : As for **DOCTORAL** Diploma's,
he never heard they were *any where* to be *pur-
chased* without taking of the *Degree*, and in *that*
manner it may be *purchased*, it being usual at
Leyden and *Padua* to sell *them*, with this Elo-
gy : *Accipiamus pecuniam, & dimittamus Asi-
num*. If it be *due* to *him*, the Reader may sup-
ply the *blank* with what is *fitting*, and term him
either *Mr. Thomson*, or *G. Thomson the DOC-
TOR BY PURCHASE*.

Yours

H. S.



TO THE

Learned and Judicious President and Fellows
of the Kings Colledge of Physicians in
L O N D O N.

S I R S,

T*Hat there are certain periodical revolutions in Nature, whereby the same calamities, distractions, and diseases renew themselves, and afflict man-kind over and over again, hath been the ancient observation of prudent men. Agreeable hereunto it is, that in our Age we see the contempt of Ancient Learning revived; and experiment a new inundation of Goths and Vandals amongst us, but not likely to be so famed as the former, for Civil prudence, and Military conduct. But as they bear a great resemblance to those Barbarians, in demolishing old Structures and Books; so herein they out-doe Theodorick, in that they promote a Licentiousness of Experiments in Physick, which that wise Goth severely forbad, out of tender regard to the welfare of his Subjects, in the loss of whom, Princes themselves become Sufferers. When the European*
Chri-

Cassiodor.

The Preface.

Christians were reduced to their greatest ignorance, and rudeness, they retained so much of sense as to apprehend this evil ; and to remedy it, and to furnish themselves with able Physicians in difficult cases (in the more facile men, are less sensible of their want) they erected Physick into a Faculty, graduated the Doctors, and did subordinate the Apothecaries unto them, and left every practitioner punishable lege de fideiariis, or by some extraordinary penalty, under whom any patient should dye, if the traditions of our Art were not observed, but the Method, or Medicaments found unwarrantable. What Henry the eighth did in modelling your illustrious Colledge, was but an imitation of these Sage Constitutions, which (descending from the Emperour Frederick the second, in 1221.) all Europe had submitted unto : These the King professeth to take for his example, and the motive he went upon was, a regard to the benefit of his Liege-people ; as our Law sheweth. The event of which determination was such as demonstrated it to be highly prudential : it gave such a lustre and encouragement to Physicians, that the profession became splendid for the number and quality of such as embraced it, and added as much to the glory of our Nation, as it brought other benefit. YOU, as well by your own merits, as the appointment of our Monarchy, are the great Tribunal of

*Jo Francis
Ripa tr. de po.
st. c. 7. tit. 64
65. Peter Re-
buff digest. l. 1.
tit. 18. leg. 6.
tit. 1.*

The Preface.

of our Faculty: upon YOUR SENTENCE, in difficult cases, we depend; To YOU, we are referred, as the supreme Judges of our Methods and Medicaments: 'Tis our Glory, 'tis our Security, to be your followers, and that which crowns all our practice is, to be at last of YOUR NUMBER. But the innovations of late years have taken off much from your renown and Authority; and though YOU have in abilities equalled or transcended your Ancestours, yet hath your Credit been extenuated and impaired: which is so much the more to be resented, in that it arose not from any evil effect of our late Civil Wars, but the insolence and extravagance of more modern attempts. Others, contrary to our Laws, have usurped YOUR OFFICE, pretending to reform the Ancient Rules, Methods, and Medicaments, and giving encouragement to all manner of Empiricks and Quacksalvers, so that the Faculty is in danger to be overthrown, and the Nation to be subjected to all those inconveniencies which the defect of able Physicians, and the multiplying of cheating Mountebanks can introduce: and when some years shall have removed or extinguished the present Physicians and Chirurgeons which are eminent, scarce any County will yield one fit to be consulted with in difficult Cases. All this mischief hath its principal source, original, and strength from the

B.A.

The Epistle

BACONICAL PHILOSOPHERS, *and the impudence of* ----- Thomson proceeded so far as to decline Your Judicature, and appeal to theirs in matters relating to the practise and being of Physick. Though the Man be despicable, the President is not: Examples stick not where they begin; and from as trivial a rise as this, I have observed, that the priviledges of greater Courts have been infringed, and others from non-judices advance themselves to become Judges, where they ought not to interpose. This consideration, and not any value I place on my Adversary, made me employ some of that little leisure which I have, in contriving a remedy for this growing evil; and I concluded that it might adde something to your grandeur; if I descanted upon the miscarriages of the Lord Chancellour Bacon, and in him shewed what incompetent Judges they are in Physick, either as to the stating of a disease, or recording its cure, who are not perfect Artists, and accomplished in our Science, whatever excellencies they have otherwise acquired, and what ingenuity soever nature may have bestowed on them: In representing of his faileurs, I thought I might deterr others from the like attempts, who are not Bacons, but Hogs, that yield much Cry, but no Wool. As for the suppressing of Mountebanks and Empiricks of lesser note, I think the most ready course would be to acquaint
the

Dedicatory.

the Nation with the History of the Faculty of Physick, the Laws made about it in several Countries, the motives inclining Princes thereunto: the Edicts against Empericks made by King John, and Charles the sixth in France, and others elsewhe: as also the dismal effects which followed all over Europe, after that Paracelsus and his followers had decryed the established Physick, and introducing new terms, principles, methods, and medicaments, and imboldened every Mountebank to make trials with his Arcana. This Course, I think, would best undeceive the people, and make them cautious, willing to learn by the sad examples of what others have suffered, and to pursue those remedies by which they have been relieved. And it would incline the Parliament to pass those Acts by which the Faculty may be supported, and all the rational Physicians in England imbodied into one common interest, and mutual dependance; whereby it will be facile for us to advance the Science to that height and usefulness whereunto no other contrivance can bring it; and to secure not only our selves, (and that Profession which is and will be an ingenious education and subsistence for the younger Gentry) but also Learning it self from apparent destruction. I should expatiate too much in this address, should I propose the

B

ways

The Epistle Dedicatory.

*wayes of advantaging Physick, and the most
feasible projects for the carrying them on: But
I beseech you to believe, I bring along with me
in this address all that respect, all those incli-
nations to serve you, which become the most affe-
ctionate of your friends, and particularly*

Warwick Jan. 12.
1670.

Your most devoted servant

HENRY STUBBE.

THE



THE
LORD BACON'S RELATION
OF THE
SWEATING-SICKNESS.

“ **A** Bout this time in *Autumn*, towards the end Hist. Hen. 7. p. 9. take notice that this Book hath no Index.
 “ of *September*, there began and reigned in
 “ the *City*, and other parts of the *Kingdome*,
 “ a *Disease* then *new*: which, of the *Acci-*
 “ dents, and manner thereof, they called the *Sweating-*
 “ *Sickness*. This disease had a swift course, both in the
 “ *sick body*, and in the *time* and period of the lasting there-
 “ of: for they that were taken with it, upon four and
 “ twenty hours escaping, were thought almost assured.
 “ And, as to the *time* of the malice and reign of the *Dis-*
 “ *ease*, e’re it ceased; it began about the one and twentieth
 “ of *September*, and cleared up before the end of *October*,
 “ insomuch that it was no hindrance to the *Kings Coro-*
 “ *nation*, which was the last of *October*: nor (which was
 “ more) to the holding of the *Parliament*; which began
 “ but seven dayes after. It was a *Pestilent Feaver*, but
 “ (as it seemeth) not seated in the *veins* or *humours*,
 “ for that there followed no *Carbuncle*, no *purple* or *livid*
 “ *spots*, or the like, the *Mafs* of the body *not being taint-*

"ed: only a *malign vapour* flew to the *Heart*, and seized
 "the *vital spirits*; which stirred nature to send it forth by
 "an *extream sweat*. And it appeared by experience, that
 "this Disease was rather a *Surprize of Nature*, than obsti-
 "nate to Remedies, if it were in time looked unto. For,
 "if the patient were kept in an *equal temper*, both for
 "clothes, fire, and drink, moderately warm, with *tempe-*
 "rate *Cordials*, whereby Natures works were neither ir-
 "ritated by *heat*, nor turned back by *cold*, he commonly
 "recovered. But infinite persons died suddenly of it, be-
 "fore the manner of the *Cure* and attendance was known.
 "It was conceived not to be an *Epidemick* disease, but
 "to proceed from a *malignity* in the constitution of the
 "Air, gathered by the pre-dispositions of the seasons:
 "and the speedy cessation thereof declared as much.

I Shall not here transcribe all that I writ against the
Historiographer of the *Royal Society*: some thereof re-
 lating more to the *particular* faileurs of Dr. *Sprat*, than
 the *mistakes* of the Lord *Bacon*: Indeed the errour of that
Virtuoso was such in *that case*, that 'tis scarce imaginable
 how a man could be guilty of it, and pretend to com-
 mon reading: Those that I am now to insist on, are
 such as peculiarly refer to the Lord *Bacon*, and argue his
 ignorance in *Physick*. And although it may be said in *his*
behalf (as I observed) that in an *Historian* we are not to
 be critical for every *punctilio*, not relating to his *main de-*
sign, yet I think 'tis but just to demand, that *what he doth*
write be true: And although cases in *Physick*, no more
 than cases in *Law*, are to be determined out of vulgar
Historiographers, but *Authentick records* penned by *Ar-*
tists; yet since the repute of my Lord *Bacon* is great in
this Age, and made use of to the prejudice of *Our Faculty*,
 more wayes than *one*; and since my *Adversary* pretends
 to justify the *exactness* of the *account afore-mentioned*, I
 shall recollect my *Exceptions* against it, and then con-
 sider what *he* says in his *defence*.

I complain'd that the relation is *defective* in sundry *material* circumstances, as to the *Type*, or description of the *Disease*; and as to its *Cure*.

He says no more of its *Type*, then that It was a *pestilent* fever, terminating in twenty four hours, without any *Carbuncle*, or purple and livid spots, or the like: wherein a malign vapour flew to the Heart, and seized the vital spirits, which stirred nature to send it forth by an extream sweat. Whereas it seized upon them with a *violent heat*, and *incredible anxiety* about their *stomach and head*; and *insatiable thirst*; and the sweat which ensued was *noysome and stinking*. This appears not only out of *Polydore Virgil*, and *Hollinshead*, but such *Physicians* as writ of it, and are alledged by me: to which I add, the Authority of *Wierus*, who wrote an excellent *discourse* of it, and having related the *Type* of it agreeable to what our *Records* declare, he adds, that in *Germany* it began with a *chilness* and *shivering*, which continued *half an hour* or more, and with great pains about the *diaphragme* and *groyn*, *palpitation of the heart*, *sudden debility of strength*, so that the patient could scarcely stand on his feet: sometimes it seized them with a *Giddiness*, and pain in their heads; and sometimes (though seldom) they vomited up black blood, or *choler*:

Also, that in the beginning of the disease, the patients hands were swelled and stiff. I added out of *Septalius*, that the *Urine* in that disease was commonly *livid and putrid*; that some pissed blood, others did void blood at their noses, and even ears and eyes. In fine, the *Type* of it is thus described by *Carolus Valesius Dubourghdieu*; "*Pestis hujus*
'symptomata erant lipothymia, virium languor, oris ventri-
'culi morsus, anxietas, cephalalgia, pulsus creber, celer & in-
'equalis: denique sudor graveolens toto corpore emanans.
'Nec inter Ephemeris censeri poterat, licet viginti quatuor
'horarum flexu deservesceret, cum largissimus ille, & fetidus

*Joh. Wierus observat. l. 2.
 de Sudore Anglico, sect. 8.
 and sect. 14. Signa morbi
 hujus-- breviter talia sunt,
 Erigus & horror, sudor fæ-
 tidus cum magna angustia
 & caloris sensu circa cor &
 pectus, & præcordia, etiam
 palpitatu cordis, & calor.
 Rubor & tumor faciei, cum
 dolore capitis: multi etiam
 dolore lumborum tenean-
 tur, alii ventris, alii sto-
 machi: alii aliis in partibus
 dolores percipiunt.*

*Ludov. Septal.
 de peste. l. 1.
 c. 21.*

*Carolus Vale-
 sius Dubourgh-
 dieu de peste,
 c. 14. p. 227.
 This book also
 hath no Index.*

'sudor,

‘sudor, non tantum spiritus accensos, sed etiam humores putredinem concepisse argueret, qui nimirum maxime natura adhuc robusta & laceffita impetu pellerentur. I more willingly cite such Authors as I mentioned not before, to the end that the Virtuosi may be more ashamed of that prodigious error which they committed in that History of theirs. Erasmus gives this relation of it; “Non aliud

Describit hanc pestem Erasmus harum calamitatum spectator, in epistola ad Carolum Utenhovium; citante Forreſto, in Schol. observ. 7. lib. 6. & Carol. Vales. ubi supra.

‘malum horribilius, nec contagium periculosius, habet tamen illud boni, quod non excarnificet hominem diutinis cruciatibus, intra duodecim horas, interdum intra pauciores aut tollit hominem, aut certam vitam spem praebeat: atque initio quidem, ut fit, festino, affligit sudore, sed igneo, odoris teter-rimi: visum est ex amne Phlegetonteo emissum hoc malum. Ungues potissimum excruciat, alas ita comprimit, ut etiamsi velis, non possis attollere. Qui fervoris erant impatientes, & auram largius admittebant, hi fere subito extincti sunt: rursus alii cum animadverterent, id compluribus infaleciter cessisse, dum in diversam tendunt rationem, in idem tum exitium inciderunt: nam oclusis rimis omnibus, & excitato igne copioso, opertique stragulis, quo magis tutiusque sudarent, aestu praefocati sunt. Praesentius tamen exitium adferebat admissum frigus: tandem reperto temperamento multo plures ab eo morbo convalescunt, quam extincti sunt: tamen tanta lues, nondum eo tempore invenit nomen, nec ullum efficax ab arte medica remedium hactenus repertum est.

These defects are in the Type of the disease: and in relation to the Cure, 'tis said by him, that Nature did discharge it self of the malign vapour by an extream sweat. I observed that to be directly contrary to what is recorded by others about it, which is manifest out of Caius, Forreſtus, Erasmus, Sennertus, and others that relate the disease. I shall here add Wierus, who says, “Sed

J. Wierus, ubi supra. sect. 9

‘praesertim magna cura est adhibenda, quando aeger sub invasionem morbi & vestigio calefactum lectum ingreditur, & stragulis, ad evitandum frigus ambiens tegitur, ne stragulis nimium oneretur: recordor enim, quod multi a stragulis

rum pondere nimio fuerint excalesciti, suffocati & mortui fuerint. ----- In like manner writes Cornelius Gemma. Nec te prateribo heu nimirum dira mortalium lues, cui Sudoris Anglici, vel idemque nomen ab ipsa symptomatis specis indiderunt. Orta est hac anno 1529. circa aestatem post humidissimam cæli constitutionem ut à patre pia memoria (qui & eundem morbum passus est tum temporis, evasitque feliciter) ipsius audiui. Primum vero ex Britannicis locis terras maritimas Hollandiæ, Zelandiæ per- vagata, Antverpiam venit, ac celerrime in Flandriam, totamque Brabantiam sparsa, uno die sudoris infanda eluvie hominum vel multa millia suffocabat. His aderat ea demencia, ut sese lectis & linteis insui paterentur, omni arte ac vi eliciendum sudorem arbitrati: Heu nimis immemores Hippocratica voces, quas sic ait: Si talia purgantur, qualia purgari oportet, confert ac facile ferunt; fin minus contra. Imo interea dum alter alterum strangularet, qui presentes aderant, mutuo adhortabantur; ne se negligerent, vigente morbi fecia, nec victi pretio, aut precibus se ante tempus liberent. Verum quando ad illos ordo pervenerat, ut sudandi tempus videretur, consuti similiter, & violenter operti clamitabant misere, obtestabantur deum atque hominum fidem, sese dimitterent, se suffocari injectis molibus, sese vitam in summis angustiis exhalare. Sed assistentes, has querelas ex rabie proficisci Medicorum opinione persuasi, urgebant continue, usque ad viginti quatuor horas, id enim erat sudandi spatium præfinitum, ante cujus circuitum evasere quam paucissimi: Tertia mortalium pars errore proprio atque insania misere strangulata est.

Vitaque cum gemita fugit indignata sub umbras.

The same is avowed by *Levinus Lemnius*, whose discourse I will also transcribe. "*Ad febrem ephemeram sive diariam referri debet Sudor Britannicus, cujus morbi symptoma seu accidens est Cordiaca syncope, vel animi defectus, qui ex stomachi morsu contractus, non minori effectu hominem*"

He speaks of its original in relation to Germany, where it first appeared at that time. Cornel. Gemma. Cosmocritie. l. 2. c. 8.

Levin. Lemnius, de complexione. l. 2. c. 2. fol. 110, 111.

hominem conficit, quam si cor vite fontem halitu contagioso
 forinsecus ingruente, opprimi contingat: quod observatum
 est anno 1529. mense Septembri in pestilenta Ephemera,
 quae ex aeris contagio exorta totam Belgicam invasit magno
 terrore, animique deliquio & palpitatione cordis. Cui hoc
 accessit incommodi, quod Empirici quidam prae artis ra-
 tionem, nec observatis natura viribus, duodecim horarum
 spatio in sudore agrotos violenter continerent. Quum autem
 aer vitiatum infectusque hinc malo seu ephemera febris cau-
 sam prebeat, Symptoma vero atque accidens, quod comita-
 tur, ut umbra corpus, Cordiacus sit affectus, atque animi
 deliquium, tum sudor ipse Crisis statuitur, quo natura ro-
 bur excussa madida olentique fuligine, morbum discutit,
 quocirca necesse est moderatus is sit, nec quatuor aut sex
 horarum spatio productior, pro virium imbecillitate & ro-
 bore: immodices enim vires dejicit, ac spiritus vitales de-
 populatur, Quod autem morbus hic Britannicus dicitur,
 vel Sudor Anglicus, hinc enatum ominor, quod in ea regi-
 one populares frequentius illo, corripiantur, partim ob ope-
 rosas lautasque mensas, ac ciborum affluentiam, qua illos
 distendi contingit, ut Germanos & Belgas potu, partim
 (ut superiore anno à me observatum est ipso etiam Solstitio
 aestivo) ob aerem turbulentum ac nebulosum, densaque ca-
 ligine passim offusum, quo fit, ut concepta intus & foris mor-
 bi causa atque origine, non sine sanguine & sudore cum illo
 colluctentur, quasi cum valido & praeferoçi hoste certamen
 sit initum, quem summis viribus excussisse laborent, hinc
 corporis animique defectus & deliquium, hinc spiritus
 languidi & collapsae vires, hinc intercepta voce occlu-
 sisque spirandi fistulis, vite propemodum interitus atque
 exanimatio. ----- This being the judgment of all Phy-
 sicians that write of it, and agreeable to the tradition of
 all Historians; I do not doubt to record the contrary re-
 port thereunto for a fundamental error in order to the
 cure. I farther observed, that whereas the others direct,
 that that the sick party, if dressed in his clothes, should im-
 mediately lye down in them, without adventuring to dis-
 robe

robe himself: this circumstance, though of extraordinary importance (as appears by those *Chronicles* I cited, and other writers) was totally omitted by my Lord Bacon: and that great caution of not putting the hand or foot, or any part of the body out of bed, or into any cool place, is not sufficiently expressed in that assertion, that they ought to ke.p themselves in an equal temper, both for clothes and fire. Yet is this observation so considerable, that all severely inculcate it, as being absolutely necessary to the recovery of the sick: and so strict were the Physicians herein, that *wierus* saith, for this cause he could not observe J. Wierus, ubi supra, sect. 15. the pulse, or urine of the sick, till the declination of its violence. No less imperfect is that general intimation of my Lord Bacon, that they were to keep themselves with drink moderately warm, and temperate Cordials, whereby natures work be not irritated with heat, nor turned back by cold: as any man will see, who consults *Caius*, and *wierus*, and others. Another omission of my Lord Bacon's was, That he forbids not the patient to sleep during the disease; whereas I observed out of *Cogan*, If they were Tho. Cogan's Flaven of health. p. 272. suffered to sleep, commonly they swooned, and so departed, or else immediately upon their waking. Which caution is ingeminated by *wierus*, "*Quamdiu durat vis sudoris fetidi, nec manus detumescent, nec symptomata cessant, oportet a somno abstinere, eique resistere vel piis colloquiis, vel aliis licitis mediis.*" In all pestilential feavers we are usually cautious how the patient sleep, till the venome of the disease be somewhat driven out and abated: and so in such feavers as are Cordiacal, and attended with fainting fits, malignity encreaseth, and diffuseth it self insensibly into the principal parts during sleep.

As to the name of the disease, and under what species of feavers it was to be reduced, the Physicians could not agree in those dayes: nor whether the sweat it self were symptomatical, or critical; for though all that recovered did recover by sweating, yet all that had the disease did not sweat (such dyed) and if it were symptomatical,

C

yet

Valles. method.
medendi, l. 2.
c. 13.

Hippocr. Aph.
sect. 1. aph. 20.
cum notis Val-
lesii.

Sennert. de
febr. l. 4. c. 15.
de sudore An-
glico.

J. Wierus, ubi
supra. sect. 7.

yet the evacuation was of that nature, that it seemed agree-
able to the Rules of Physick, neither to stop it, not yet to
help it, but only to continue it: and if it were Critical,
it was to be continued onely, in like manner; and nature
not to be assisted, or vigorated, beyond what was necessary.
It being our Aphorism, *Quae judicantur, & judicata sunt*
integre, neque movere, neque novare, neque pharmacis,
neque aliis irritamentis, sed sinere. But though they had
these controversies amongst them, yet I do not find this
to be one; Whether that the Feaver or Pest did con-
sist in a vapour afflicting only the vital spirits? "*Cum*
enim eam sudores copiosissimi, & multa pessima Symptomata
comitata sint; inde facile colligere est, spiritus non solum in-
censos, verum & ipsos humores ac calidiores affectos & cor-
ruptos esse. Et licet viginti quatuor horarum spatio hac
febris solveretur: non tamen ideo ad Ephemeram
referenda est, sed inde potius maxima inter naturam &
inter pessimum morbum colligitur pugna. So Wierus,
though he hold that it seized first on the vital spirits, yet
avowes, that the mass of blood was also corrupted by the
pestilent venome: Nor can any man doubt it, who con-
siders but the Type and Symptomes of the Disease, which
I formerly, and now again have represented, as also the
precedent season of the year. And I could not but smile
at the reason given by my Lord Bacon, to shew that the
pestilent feaver was not seated in the veins or humours, nor
the Mass of the body tainted. Because there followed
no Carbuncle, no purple or libid spots, or the like. For
there are many pestilential diseases recorded, in which the
mass of the blood and humours are infected, and yet there
are no such symptomes ensuing, as this Lord specifies.
Such was the disease called Coqueluche, or Morbus Arie-
tis, and Catarrhus Epidemicus, in the year 1580. which
over-ran all Europe, and of which sundry Authors have
written: such were the pestilent pleurisies, pestilent pleuri-
pneumonies, and pestilent peripneumonies, dysenterias,
morms, small pox, of which our Physicians give us large
ac-

accounts: and in the Histories of sundry Camp-feavers, being pestilential, and infecting the humours and mass of blood, you may often read how none of these cutaneous eruptions were observed: no 'tis not constant in the Hungarian, or spotted fever, that they appear. Neither is there any thing more true, than what Massarius layes

down. "*Et si diximus & peticulas & ceteros decubitus propria esse signa fere febris pestilentis, tamen id Sciendum est, neque id generaliter verum esse, neque hujusmodi symptomata illis propria & inseparabilia esse: Siquidem ex una parte nonnunquam evenit, ut in febre manifeste pestilenti, ac forte ceteris maligniore, neque papulae, neque tumores, neque ulla natura depulsio conspiciatur: ex altera autem ut non solum in simplici febre, sed etiam ut placent Altio & multis, qui id confirmant verum esse, sine febre interdum compareant & maculae, & alia id genus symptomata, quae ab omni pestilentis affectus ratione sunt aliena, & nullum periculum afferunt.* In fine, How often doth every practitioner see, that those purple or livid spots do not appear till after the party is deceased? And when they do appear, 'tis a Question with me, whether they argue so great an infection in the mass of blood and veins, as my Lord intends, seeing they have their original from the bones, and thence rise up to the skin, pyramidally. "*Ja-*

cobus Bontius ——— cadaver cujusdam qui exanthematibus hisce laborarat, dissecut, invenitque ab ossibus ipsis initium sumere ea, incipereque a latiori basi, pyramidisque instar assurgere, ac tandem in summo cutis in conum desinere.

And this doubt of mine is confirmed unto me, by sundry reasons, which may be seen in Isbrandus à Diember-

Alexand. Alex.
lib. 1. c. 14.
p. 24.

Henricus Florentius in Petr.
Paav de peste,
c. 4. p. 72.
This book hath
no Index.

Isbr. à Diember-
brook de peste
lib. 1. c. 14.
p. 19. edit. ultima.

The Lord Bacon concludes his Narrative with a passage so ridiculous and absurd, that so gross an opinion is enough to extenuate his judgment in Physick, and convince any man, that he had little insight into those studies. "*It was conceived not to be an Epidemick disease,*

Vide Vallesium
in pref. com-
ment. in Epi-
demia Hip-
pocr. Ruland.
de febre Hun-
gar. c. 8. qu. 1.
Fernel. de
morb. occult.

lib. 2. cap. 11.

Jul. Palmar. de Febre pestilenti, c. 2. Ludovic. Septal. de peste, lib. 1. c. 2. Neucrahtzuyh de
Purpura, c. 9. pag. 106. Zacchia. qu. medico-legal. lib. 3. tit. 3. Qu. 1. sect. 23. Mercatus de
febr. l. 9. c. 1. Anton. Sarracen. de pest. nat. pag. 6, 7, 8. Th. Jordan, de pest. phenom.
tr. 1. c. 2.

but to proceed from a malignity in the constitution of the Air, gathered by the predispositions of the seasons. As if Epidemical diseases, and diseases from the constitution of the Air, were contradistinct; and that none of the former could arise from infection, or corruption of the air: The opinion is so false, and universally known to be so, that it needs no refutation.

Having premised these things for the better understanding of the present Controversie, (most whereof were set down before in my *Animadversions*) I now come to consider the Defence which ----- Thomson makes in behalf of the Lord Bacon: and I find it so defective, that of all the *Exceptions* I have brought, only two are controverted; the rest are passed by in a profound silence, by my talkative Antagonist.

The first is, as to the Cause of the Disease, that It consisted in a malign vapour, flying to the heart, and seizing on the vital spirits, which stirred Nature to send it forth by an extream sweat.

The second, that The proper cure of the Sweating-Sickness, consisted in extream sweats.

p. 16.

To the first, ----- Thomson's reply is, "The material cause of this truculent disease, proposed by him is, a malignant vapour, i. e. Gas sylvestre, an incoercible spirit, which by reason of its subtilty, resembling the vital spirits, could readily mix it self with them, forthwith infecting the same, especially those about the heart; whereby the plastick power of the Archæus, as an efficient cause, the perfect Idæa, or image of this specifick disease is portrayed, part of the vital spirits, being, as it were tinged by the intermixture of these contagious particles, and part remaining in its integrity, being exasperated at the pre-
sence

'sence of such an hostile intruder, stirrs up nature, i. e.
 'musters up all the faculties, forces, or strength belonging to
 'the *Archæus*, or *Archæus*, and withall summoning the *Latex*, ^{I suppose it should be}
 'or *Lympha*, to be assistant to the ablution and ablation of *Archæus*.
 'this fermenting, malign impurity, which is sent forth by
 'an extream sweat. The inward procuring occasional ex-
 'citative cause was a pestilent venome, a tabefying mat-
 'ter, immediately lodging in the degenerate juyces about the
 'stomach and spleen (Helmont's duumvirate) not in the
 'veins or fictitious humours, which, sending forth fetid pu-
 'trefactive particles, annoying the *Archæus*, caused an in-
 'dignation, or fretting disposition, at presence of that which
 'is altogether Exotick, and incongruous with nature :
 'whereupon thus put upon the stress, it exerts all its power
 'and faculties to the expulsion of such a virulent Guest, per-
 'formed most conveniently by large sweats, before which,
 'there must necessarily precede a fever, from the collision,
 'conglomeration, tumult, and confusion of the vital spirits
 'thus assaulted ; as is frequently observed to fall out, when
 'any extraneous thing to Life getteth into the flesh, to wit,
 'a thorn or splinter : so that a fever is but a consequent
 'of the fury and rage of the *Archæus*, and a precedent of
 'the expulsion of the *Archæus*, the matter of the disease.

In this discourse there are so many un-intelligible cant-
 ing terms, that to speak well of them, a man must be a
 Virtuoso : for that kind of men, being obliged by their
 constitution to be very civil one to the other, will bestow
 the Elogies of Learned and ingenuous, upon the most
 ridiculous speaker that ever opened his mouth amongst
 them. The turning of a malignant vapour into Gas
 Sylvestre, and making them synonymous, is an unpar-
 donable error in the Helmontian Philosophy, which
 makes the Gas and vapour, to be distinct things in na-
 ture. " *Itaque Gas distinguitur à vapore, quod in hoc sal*
 ' *assurgat cum mercurio, & habeat sulphur inclusum ; Gas*
 ' *vero sulphur extrahit atque subdividit.* The plastick
 power of the *Archæus* are empty words, and more difficult

expressions than ever poor *Aristotelian* used. The whole paragraph is nothing but jargon and non-sense, yet suiting to the revocable *Hypothesis* of this Age. The *Juyces* in the stomach were not degenerate; seeing that the disease did invade the most youthful and healthy. His placing of the infection in the degenerate *Juyces* of the Stomach and Spleen, and *Latex*, (another canting term) is contradictory to what the Lord Bacon saith, that the malignant vapour did flye to the heart, and seized the vital spirits, and not the mass of blood, or other grosser juyces, called *Humours*. Oh most excellent Advocate, and Baconical Philosopher! If it did not invade and affect the blood, how came those sanguinary evacuations? 'Tis to no purpose to reply, that the pious and other humours (which composed that fetid sweat, and occasioned the heat, thirst, and other symptoms) were only secondarily affected; for then in the declination of the disease, there must have been Carbuncles or spots, according to that Judicious Historian. I think the *Galenists* give a better account of it, when they say, that a particular venome, or peculiar kind of superlative putrefaction, did at that time infect the air, which, encountering bodies pre-disposed to sweating-diseases, by the heat and moisture of the preceding year (ὁπότερ διεστέλει τὸν αἶρα, ἰσχυρὸς ἐν τοῖς το-
 γελῶν ἀνθρώποις καὶ, Quando aestas est similis veri, tum sudores multos in febris expectare oportet) or perhaps by celestial influences, occasioned that disease: whereof the Cure was to be learned (it being a new disease) from the observation of that course by which Nature did ease it self: for of all the venenate qualities which, by infection of the air or diet, are ingendred and commixed with the constitutive parts of men, scarce one produceth the same symptoms, or is cured the same way by which another is. Thus some spotted fevers have been cured by fluxes, others by sweat and urine: some have had their critical motions, others have been so malignant as to admit of no such periods, or delays: And hence it is, that very eminent Physicians have not restrained the name of Plague

Hippocrat.
 fed. 3. aphor. 6.
 Langius ep.
 med. lib. 1. ep.
 19.

to any one form of disease, but left it *unconfined*. In this disease, since none recovered but by sweat, and most recovered that were *sweated moderately*, (according to the relations given) it was their business to promote *Sweat*, and therein to shew themselves *subservient to nature* : and herein the latter part of my Lord Bacon's account agrees with that of the *Physicians* : viz. To keep the patient in an equal temper, both for clothes, fire, drink, moderately warm, with temperate cordials : though it be most false, that Nature was stirred to cast forth the venome by extreame sweats : for such dyed ; and therefore such emotions must have been the consequence of Nature, erring through a *virulent irritation*, or fainting under a *putrid exolution*. As for the comparison betwixt this venome or Gas (which ——— Thomson understands not what it is, being ignorant in his own principles) and a thorn or splinter, 'tis most absurd : for those occasion only *symptomatical Feavers* ; these *venenate aerial or dietetical poisons*, produce *originary and real feavers* ; they are intimately commixed with the *mass of blood and humours* ; and as in fermenting wine or Ale, the inexcusable Gas hinders not the *purification and generation* of those *generous liquors*, so neither would it here : but 'tis rather like those *ferments or mixtures* which corrupt the *Vine or Ale* several wayes, according to their several natures, but are not comprehended under the name of *Gas peregrinum & sylvestre*. But I will not give my self the trouble of instructing these ignorant *Baconical Virtuosi* : 'tis an *endless work* : 'tis enough that *Helmont* supposeth that the Gas endureth not the *Sulphur*, whereas these *noysome Sweats* must have had much of that, if the *Chymical* writers may be believed.

Jo. Becherus
physic. subter-
ran. l. 1. sect. 5.
c. 2. sect. 29.

As to the reason which my Lord Bacon gives why it was not seated in the veins, or mass of blood ; because there were no purple or livid spots, nor carbuncle, or the like. In defence of that, all that ——— Thomson sayes, is, That the reason did well become him : (which I easily

‘easily grant, since he understood not *Physick*) for in
 ‘reality, the effects of this *Anomalous* peyson was most
 ‘eminent in the *Serum* or *Latex*, a concomitant of the
 ‘bloud, a great depraved quantity whereof was col-
 ‘lected in the body, through the then unaccustomed
 ‘ill natural texture of the air, &c. This is all that he
 saith to the purpose: wherein, for *proof*, he gives us his
 own *assertion*; which the most illiterate *Mountebank* or
Virtuoso may do: and ’tis contrary to all those *presum-*
ptions which the *History of the disease* doth suggest unto
 us. Besides, if the *Latex* or *serum* be a concomitant of the
 blood; (as he sayes) How is it true that the disease was
 not seated in the veins? Is not the blood there mixed with
 the *Latex*? If it were in the *Serum*, How are the *Hu-*
mours of the body free from infection? since that is one of
 them. A *Lawyer* that should thus defend his *client*,
 would deserve to be cast over the *barr*: What your
Baconical Experimentators may adjudge ——— *Thom-*
son unto, I know not: but no *intelligent* person can favour
 him.

The next point is, Whether the cure of the disease
 consisted in extream sweats? My Adversaries words
 are these; ‘You cavil at our Lord, because he sayes,
 ‘Nature did strive to send forth its virulency by an ex-
 ‘tream Sweat: whereas your beloved Authors tell you, all
 ‘that recovered, were recovered by the continuance of a
 ‘moderate sweat. This (say you) Experience and Ob-
 ‘servation taught them; but ’twas but Galenical, and
 ‘that may be certainly verified of you to be the Mistress of
 ‘Fools; for *ἡ φύσις σφαιρική*: None but a pyrotechnist can
 ‘explore as he ought healingly. I pray Sir, what but Na-
 ‘ture should strive to send forth the virulency? Doth not
 ‘Hippocrates tell us what is infallible; Naturæ (i. e.
 ‘vitalis spiritus) sunt morborum medicatrices; which
 ‘you ought to imitate in deed, and not as you word it: then
 ‘the Quarrel would quickly be at an end betwixt us. But
 ‘the Extream Sweat (it seems) stumbles you: But why
 ‘should

' should that ? An extream disease must have an extream
 ' remedy : This Hippocrates doth also dictate. In extre-
 ' mis morbis extrema exquisita remedia sunt optima.
 ' *Malo nodo, malus cuneus.* But let us know a little strictly
 ' what is meant by an Extream Sweat, and a moderate, in
 ' relation to this truculent plague. The extream sweat (i.e.
 ' very large) was, according to the story, mortal. The Mo-
 ' derate salutary. Which I deny, *καὶ αὐτὸν καὶ αὐτὸν λόγον*, qua-
 ' tenus mere Sweats : for, according to my Observation this
 ' twenty three years, all malignant pestilential Feavers, the
 ' Pest it self, and the Gripping of the guts, which holds a
 ' fair proportion with the Sudor Anglicus, did all receive a
 ' most certain and expedite Cure, best by extream large
 ' sweats, if the strength were kept up ; otherwise no sweat,
 ' more or less, is of any significant benefit. *Quicquid fit vir-*
 ' *tute naturæ, fit αἰσῶς καὶ λαβρῶς, non autem πολυμερῶς.*
 ' Whatsoever Evacuation is attempted by Nature robust,
 ' directly supported, is performed plentifully, impetuously,
 ' and incontinently, not dribbling by piece-meals.

In this discourse I shall pass by that ignorant compa-
 rison betwixt the Gripping of the guts, and the Sweating-
 Sickness, betwixt which there is no affinity that I can
 learn : and perhaps Spigelius in his book about Semi-
 tertian feavers, may give the best account of that disease :
 'tis one, I confess, I never saw, but I dare avow, 'tis not
 of the nature of the Sweating-sickness ; though it may
 so happen, that the Gripping of the Guts, as well as other
 diseases, may be not only malignant, but pestilential.
 He is a Baconical Philosopher, and therefore may write
 any thing. It is also observable, that I gave him no
 ground for that demand, Whether nature did not eject the
 virulency ? and Whether we ought not to imitate Nature ?
 No Galenist or sober Physician, did ever deny these things :
 and the latter assertion is that, on which all our practice
 is founded. 'Tis for the Virtuosi, who approve and talk
 of Commanding Medicaments, (which over-rule nature)
 to deny it : or for the followers of Van Helmont, who

D. ... teaches

teaches that 'tis an *imbecillity* of a *Physician* to attend or permit any *Crisis* or *concoction* of a *disease*. We are willing to be tryed by that *Rule*; yet not to be reconciled to

Thomson. I must also take notice of the contempt which he expresseth for the *Experience* of the *Galenists*, in comparison of that of the *Pyrotechnists*: whereas very few of these *Philosophers* by fire, have so much judgment as to make an exact experiment: But those of the others are as *certain* and *accurate* (understand me not of all) as *humane* nature, and the *mutability* of *humane* affairs are capable of. I now come to the principal controversy, concerning the benefit of *Extream* sweats in this *disease*. I confess 'tis hard and strange in a *Peripatetick*, that I should be pressed with arguments against matter of fact; this is a *weakness* of judgment, faith *Aristotle*. But though all the writers else do dissent from my Lord, *Bacon* herein, (and 'tis *brutish* to call the credit of so many attestations into dispute) yet I shall shew some regard to the reasons alledged. That the remedies of a *disease* must be as exquisitely *extream*, as is the *disease* it self, may, with some interpretations and restrictions pass: for there is a caution to the contrary: *ἡ δὲ ἀναστροφὴ αὐτῆς ἐστὶν ἐξ ἑαυτῆς ἀντιστάσις*. *Extream* evacuations are dangerous; and no man putteth the *Life* of his *Patient*, if the *disease* admit of any delay; which some *plagues* have done: so that there is judgment to be used, and observation, to warrant that practice, such as my *Adversary* is not capable of. But however, this doth not specificate the remedy, or inform us whether we ought to bleed, or purge, or sweat, in extremity. A *Squinancy* or *Apoplexy* are *extream* diseases, yet no man in his wits, would in them rely upon the most potent *sudorifics*. So that I am obliged to desire my *Adversary* to apply that general proposition to his conclusion for violent sweats: for I cannot. But he sayes, that *Extream* sweats have been observed by him to be the most expedite cure for all malignant pestilential fevers, the pest it self, and the Gripping of the guts: and for this he alledgeth the *Experience* of twenty three years. Had our

Au.

Author been one of those *Rosicrucians*, who pretend to have lived about three hundred years, his *Experience* concerning the *Sweating-sickness*, might have imported somewhat: but since he never saw that disease, nor hath had any tryals to cure it, 'tis most impertinently argued, that because some other malignant and pestilential diseases, the plague it self, or Gripping of the guts, are cur'd so sometimes (for 'tis no more) with success, therefore the *Sweating sickness* ought to be so cured. I dare say, an hundred *Galenists* have taught us to cure the Plague by *extream sweating*. I shall only mention *Sennertus*, *Petrus Paaw*, *Palmarius*, *Van der Heyden*, *Gardinius*, *Isbrandus à Diemerbrook*. Concerning pestilential and malignant fevers, the assertion is false, or must be regulated by many considerations, before it can be admitted: As to the cure of the *Gripping of the Guts*, I do not hear such a character from *London*, of his Cures thereof, or the success of his pepper-drops, to endear his Method unto me. But after all this, he concludes me by a third reason, which, if it were true, I would submit thereto. viz. *whatsoever evacuation is attempted by Nature robust, directly supported, is performed plentifully, impetuously, and incontinently, not dribblingly, by piece-meals*. Therefore, since the *Sweating sickness* was an effect of robust nature, ejecting the venome of the disease, the sweats must have been violent, and the Physicians ought to have procured such. But I cannot find any solidity in the Argument. *Quicquid fit, virtute Naturæ, fit admodum et abundanter non autem modice*, Is no Aphorism of Hippocrates, though you read it *πολυμερῶς*, nor true amongst Physicians. The *Sweating sickness* is an instance to the contrary: and so are those diseases which are terminated by a slow bleeding at the nose, which if sufficient to put an end to the disease, needs not to be impetuous. Neither is it necessary that all the evacuations of invigorated nature be *extream*: there is a practical rule in Hippocrates, which doth not direct us so much to the quantity, as quality of what is evacuated, and the benefit which

Hippocr. sect. 1.
aphor. 23.

Vallesm in.
Aphor. 23.
sect. 3.

Prosper Alpin.
de prælag. vita
& morte, l. 7.
c. II.

which the Patient finds upon it, and the strength with which he bears it. *Quæ prodeunt, non sunt astimanda multitudine, sed ut prodeant qualia oportet, & ferat facile.* Those evacuations in morbid bodies, which are either produced by Art or Nature, are not so much to be judged of by their multitude, as by their being suitable to the disease, and beneficial to the parties. It is true, that small evacuations, as drops of blood from the nose, and spots in malignant and pestilential fevers, and small and partial sweats, are of a dangerous prognostick. Yet it is not so necessary that the evacuation be great, as that it be appropriate to the disease, and well undergone by the Patient. For, let never so much come away (as in dejections of sincere humours) yet if it be not such as the disease requireth, 'tis evil, if not pernicious: And if it be not undergone with strength and benefit to the patient, certainly the evacuation is prejudicial. But if those Humours be evacuated, which are the cause of the disease, and the Patient bear it well, such evacuations are not hurtful; whether they be greater or less: If they are less, the benefit is less, yet are they beneficial: and if they be greater, if the Patient bear them well, how great soever they be, they are not excessive. There are times when even critical evacuations call for our aid to moderate and abate them: that is, when they transcend the strength of the patient; and the vital indication being alwayes urgent, we must not suffer the party to dye by his Cure, any more than by his disease. But neither is it true alwayes, that Nature operates thus violently; and there happen frequent circumstances, in which the Physician ought not to correct her deficiency, but otherwise make the best benefit he can of it: This happens in Symptomatical evacuations, in diseases that are of difficult judicature, whereof, as some are noxious, and to be stopped; so some are beneficial, yet not to be promoted: these give hopes of recovery, but of a slow one: and where it is apparent that the disease will be slow, difficult, slow and difficult.

scile in its own nature, 'tis madness to promote those excretions, which may weaken nature, but not depel the distemper: those small evacuations and otherwise unseasonable, in such diseases, have their advantages, and they which under them escape with difficulty and danger, would unavoidably perish without them. This is a known case in Physick, which to insist farther on, were to teach ——— Thomson the Method of Physick. which is not my present intention; I only recommend this to these Baconical Experimentators, that they would Understand before they Judge; which I am sure my Adversary does not.

I have now fully and perspicuously replied to all that He hath said in defence of the Lord Bacon, which is the principal part of his book: I might leave the rest to be replied unto by Dr. Chr. Merret, as a more fitting Antagonist for him, than I am: the match being pretty equal betwixt them two. Yet I shall cursorily shew the ignorance of this man, in one other important passage of his Book.

He is pleased infinitely with talking of Van Helmont, p. 45. as one that instructs in real entities; his philosophy is most veriloquous and Authentick. I shall take the liberty to tell him, that I esteem best of that Philosophy (in reference to Physick) which is most useful and beneficial to the health of men; and this I desire to see evidenced by practise: and I farther judge of an happy practise, not by the plausible reasons he gives, nor the pretty curiosities with which he sets off the preparation, or efficacy of his Medicaments; nor by the confidence with which he boasts his own performances; but by the esteem he gains in the world; and multitude of patients, who will resort unto him that doth the greatest cures: so sweet is life. But I have assurance from those who knew and observed Van Helmont, that he was no great nor happy practitioner: and I am confirmed in this opinion, by what J. J. Becherus relates concerning him, who (though he have otherwise

Fr. Vallisus
method. med.
l. 2. c. 13. Septal.
de peste l. 5.
c. 20.

J. F. Becherus
physic. subter.
l. I. sect. 4.
c. I. sect. 7.

otherwise some esteem for him, yet) reckons on him as an idle Theorist. "Concerning Van Helmont, I know not well what to say: It is said, that he could not cure a common feaver; and that he dyed of a burning feaver, because he would not make use of any Physician, whose faculty he had so reviled and contemned, choosing rather to dye helpless. Doctor Krafft [one much celebrated by Becherus] told me, that being in Brussels, he enquired after Van Helmont, and demanding of some persons which had lived long in the same street that he did, where his house was? they could not tell him, and protested they had never heard of his name: whereat he was surprized, as deeming it impossible, that a Physician, who, like another Æsculapius, performed so miraculous cures, and to whom multitudes might be presumed to resort, having lived so many years in one place, should not be so much as known to his next neighbours, amidst whom he had lived. Indeed many complain, that the Theory which he layes down is not found in Practice to answer expectation, which hath occasioned the death of many Physicians and their Patients: as appeared in the late plague upon the Rhein, where a dapper Priest and his brother, having by chance met with Helmont upon the Plague, they read it over so studiously, that they retained it all in their memory most exactly, and thought it was impossible but that the Practice would be such as would justify the Theory. From Holland they came to the infected places, and desired leave to act the Physicians in the cure of the Plague: which having obtained, in a few dayes they both dyed. It is manifest hence, that many things may be with great plausibility disputed by a subtile tongue, and wordish pen, but few appear good upon Experience. As little is to be said in the behalf of Phedro, Scheunemannus, Severinus Danus, and Paracelsus; and Henrichus Lavaterus (and others) sheweth, that the performances of Angelus Sala, (though one of the best of the Chymical practisers) did not gain him credit in Smitzerland, but that his famed extracts proved fatal

H Lavaterus:
Defens. Gale-
nic. adv. 4.
Salam. p. 81.

fatal to many persons of quality there. There is not any thing so lying as a *Chymist*; and the *Medicines* they boast of, and the *Laboratories* they talk of so much, are commonly found to be *delusory brags*. I shall not prove this out of *Agyrto-mastix*: nor insist upon it, that Mr. *Odorde* did pretend to as great *Arcana* as any of the *Fraternity*: God had been pleased to communicate unto him a Method in the *plague*, to preserve thousands from the grave, which he promised to administer publickly and freely to all that should desire it. Yet did he and his wife dye thereof, in 1665. They will write books of *Theories*, *Processes*, and *Medicaments*, yet never make or try them. Thus *Faber* of *Montpelier* writ much in *Chymistry*, but most notorious untruths. An eminent person told *Becherus*, that being excited with the *renown* of the man, and a *curiosity* in *Chymistry*, he went from *Italy* into *France* on purpose to converse with him; but could not find that he had so much as one *Furnace*, or was at all versed in the practice of *Chymistry*. So *Agricola*, who writ upon *Poppius*, was put to publick shame by an *Apothecary*, for writing so many untruths. So that it behoveth the people to consider, not so much with what *impudence* a man vaunts himself ('tis an usual sign of a proportionable ignorance and imposture) but to examine rather, as I do, the *solidity* of their discourses, and *efficacy* of their *Medicaments*: 'tis not a casual cure that makes a man knowing; 'tis not a sudden alleviation, which lasts not long, and perhaps throws the Patient into a worse disease, or destroys him in a short time, that argues the goodneß of his *Medicines*. No, the constitutive qualities of a *Physician*, are skill in the real causes (or such as are as effectual as if they were so) and the signs of diseases: the *diagnosticks* and *prognosticks*, and a *Method of curing* (authenticated by the *History of Medicine*) and *Medicaments*, such as the *Experience of Sage practisers* recommends unto us, (to which end he must be well read in the *History of the Materia Medica*, and not set up with two or three *praxes*)

these

*Odorde's poor
mans Physici-
an, p. 89.*

*J. F. Becherus
ubi supra.*

Fac. du Bois,
in præf. scripti
adv. Wittich-
iam.

these render him accomplish'd : He that understands *Humane Nature* best, and the operation of the *non-natural* and *preternatural* things upon it, is the person to be employed : not every one that can proclaim a catalogue of *diseases*, (which oftentimes are of necessity to be cured *several wayes*) and boast of *effectual*, *pleasant*, and *universal medicaments*, is to be regarded. 'Tis not the most *acute*, *experimental Philosopher*, that is the best *practitioner* : many *Theoremes* are plausible, which *practice* refutes : this was the death of *Van Helmont* ; thus *Des Cortes* died of a *pleurisie*, when, through a *prejudicate novelty*, he refused to be let *blond*. 'Tis not great *ingenuity* and *parts* employed in *florid*, or *different studies*, that make any man a competent judge of a *disease*, or the operation of a *Medicament* : The Lord Bacon is a great instance of this *truth*, and the instance of the *Sweating-Sickness*, convinceth us of the *vanity* of him, and the *Comical wits*, in their pretences to *discourse of*, or *reform* what they so little *understand*.

I had thought to have prosecuted some other points, by him *agitated*, and to have demonstrated the *vanity of the courses* he takes, and *Medicines* by him recommended : and to have vindicated the *ancient Physick* and *Medicaments* particularly, and given an *Historical account* of the inconveniences that have befallen this last *Century*, by reason of these *Pseudo-physicians* : but I have not leisure now to do it ; nor is my Adversary so considerable, that I should take so much pains to *expose* him : what I have writ here, is enough to shew his *intolerable ignorance* and *folly*, and represent him as *unfit* to be entrusted with the life of any man.

A P O S T S C R I P T.

I Think I cannot better conclude this *Treatise*, than by representing to ——— Thomson, that account which he himself gives elsewhere of the Sweating-Sickness: for thereby it will appear, how out of an ambition to contradict me, he opposeth himself: yet is even that as little agreeable to truth, as 'tis to the relation of my Lord Bacon.

G. 7. Of the true way of preserving the Blood, pag. 24.

“ Here I cannot but make an animadversion upon that truculent disease which formerly raged in England, to the destruction of some thousands. It had its original undoubtedly from a degenerate Latex turned into a malignant Ichor, which caused a tabefaction, or colliquation of the Blood and nutritive juyce, which issuing forth in a copious measure symptomatically, without any Euphoria, or alleviation, quickly consumed the stock of life. what resemblance is there betwixt this disease, and that of the Gripping of the Guts? The attempt made at first to cure this malady, by stopping the sweat by astringents and cooling things, proved not only frustraneous, but also very mortal, for the malignity being thereby more concentrated, wanting a Momentaneous vent through the universal membrane, it forthwith preyed upon the Archæus, extinguishing the lamp of Life in such sort as a Mephitis, or subterraneous damp doth obfuscate, and at length put out the flame of a Candle. Now the proper adequate remedies that took effect in this feral evil, were Eustomachies, as likewise counterpoysons, that did immediately resist the venom by obliterating the Idæa thereof, by corroborating the enor-

E

men,

'mon, exterminating the intoxicated Ichor, and ill-con-
'dition'd Latex, through the habit of the body, carrying
'it that way quo natura vergere studebat.

This Baconical Philosopher here directly contradicts what he would seem to assert against me: viz. His Author and he say there, that the mass of blood in the veins was not infected (for then there would have ensued spots and botches) but only the vital spirits. Whereas here he saith, that It had its original doubtless from a degenerate Latex, turned into a malignant Ichor, which caused a tabefaction, or colliquation of the blood and nutritive juyce. And undoubtedly he is deceived, in fixing the original of that disease in the Latex, whereas it depended, and had its beginning and being from a particular venome and corruption of the Air; for, notwithstanding that the unseasonableness of the preceding year, might have depraved the bodies of men, yet did both arise, spread, and cease so suddenly, that 'tis evident its original and continuance was derived from another cause. Whereas he sayes it was Symptomatical, 'tis a sign he understands not what he sayes: for Symptomatical evacuations (at best) are neither to be promoted, nor provoked, but only continued: whereas such as did not of themselves sweat, were to be forced in this case, to sweat moderately; otherwise they dyed. I profess I do not know yet the nature of that disease, whereunto to reduce it, or how to speak of it, in the language of a Physician: they that saw it, were as much perplexed with the notion of it, as with the Cure. That any Physician did then go about to cure it, as my Adversary reports, by stopping the sweat by adstringents and cooling things, is an attempt I cannot believe, till I see some good Author for to averr it: it being contrary to the most received rules of Medicine: And it is certain, that in England (at least the first time) the cure is not said to have been performed by Eustemachies and counterpoysons, that did immediately ob-
literate

Sennert. Instit.
medic. l. 3.
part. 3. c. 10.
Fr. Valles.
Controv medic.
l. 15. c. 3.
Prosper Alpi-
nus de praesag.
vita & morte,
l. 6. c. 3.
Ludov. Septal.
Animadvers.
l. 3. sect. 60,
61.

literate the Idæa of the venome, corroborate the enormous, and exterminate the intoxicated Ichon, and ill-conditioned Latex, through the habit of the body. For,

‘ the Patient was to lye still during the whole twenty Th. Cogan's Haven of health, p. 273.
 ‘ four hours, and so cast the clothes on him, as in no

‘ wise to provoke the sweat, but so lye temperately, that
 ‘ the sweat might distill out softly of its own accord,
 ‘ and to abstain from all meat, if he might so long suffer
 ‘ hunger, and to take luke-warm drink. ——— Out of

which, it is manifest, that they did not use such means With this relation of T. C.'s. do agree both Polidore Virgil, Hollinshed, and Hall, in their Chronicles of Henry 7.
 as ——— Thomson relates: and if small beer warmed

may pass for a cooler, the use thereof was more beneficial than he will allow of. But whatsoever were the Method at the first time of that sickness, in the time of Dr. Caius, (though they were cautious of giving any thing, if the Patient did sweat, till some hours were past) yet did the Physicians use temperate cordials, but moderately given: and such as he would have termed somewhat cooling, but that so powerful and prodigious effects as were then seen, ought not to give credit to Galenical Medicines: yet had they no other in those dayes, vulgarly used. In Germany, when the diseased party did not sweat, they gave them treacle. and other Galenical medicines to enforce them: when he did sweat, then did they give them manus Christi perlated, jelly of currants, berberies, and the like, mixed with the conserves of red roses, borrag, and marigolds; and if the patient could not refrain drink, then was such a Julep as this prescribed;

R. Of the waters of Sorrel, Scabious, and Carduus Wierus obsery. l. 2, de sudore Angl.
 Benedictus, of each three ounces: of the Syrup of Sorrel, and that of Syrup Citron-juyce, of each an ounce and an half. m.

This direction is irreconcilable to what my Adversary writes: yet were such Galenical medicines effectual in that strange disease: And to see with what

indiscretion this Pyrotechnist mentioned the cure of this Distemper, one Tyengius was famous in Holland for his success therein, whose method is thus described.

Petr. Forrest. Observat. l. 6. obs. 8.

“Quod ad curationem attinet, & venasertionem, & purgationem, ab initio statim exhibebat; sed primum pente sudore ab iis abstinebat, ne motum naturæ impediret: & magna cum laude (uti scripsit) utebatur tali potione;

‘R. Hordei mundati, florum nenupharis & violar. ana m. ꝑ. Carduiben. pimpinella, borragin. bugloss. passul. enucleat, ana. p. j. ficuum numero decem, lentium excor-ticat. ʒviij. lacce abluta & munda ʒv. tragacanthi ʒiij. Zedoaria, dictamni, rad. tormentilla ana ʒj. f. decoctio in aqua nenupharis & bugloss. q. s. & post frigidationem exprimatur.

This potion (which these Mungrel Chymists would call a detestable shop-drench) did he give as a temperate cordial to his Patients, to allay their thirst, and gently continue the sweat: He gave it warm, causing them to suck frequently a few drops, or so, through a reed.

I have been more particular in this, to convince the Baconical Philosophers, how different Cures the Physicians in several Countries, were put upon in a disease which seemed to be uniform and the same, so that 'tis not the knowledge of the general Types of diseases, (I dare speak so, notwithstanding that Dr. C. M. called me intolerably ignorant for it; but 'twas he was so) nor the collecting of sundry receipts and Arcana, that accomplish a practitioner, but a more laborious study in the grounds of Medicine, skill in the diagnosticks, prognosticks, Method of curing, and the History of Epidemical diseases, and particular cases, together with the Experimental accounts of our Materia Medica, and the Art of compounding Medicaments

occasionally, which must perfect him in his profession. 'Tis to such the world hath been obliged in its extremities hitherto; and 'tis the felicity of our Nation, that the Colledge at London is composed of such, and such our Universities do breed: and were all the books in Europe to be consumed by fire, 'tis the works of such men I would intercede for, and rescue, whilst all those of the Lord Bacon, the Baconical Philosophers, and Van Helmont, should be consumed by the flames.

There are other faults in this account of G. T's. that I might insist on, as, that the *intoxicated Ichor* should issue forth in a copious measure symptomatically, without any euphoria or alleviation: Which is absolutely false. For, though violent sweats were mortal, the more moderate, though copious, did not only alleviate, but recover the Patient, if all circumstances besides were duely observed. I might reflect upon the canting language and jargon which he useth: He that writes in that manner, does prudently, to dedicate his books to such as are not befitting Judges of what they contain.

F I N I S.

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AN EPISTOLARY
DISCOURSE
CONCERNING
Phlebotomy.

In Opposition to

—G. Thomson Pseudo-Chymist, a pretended
Disciple of the Lord VERULAM.

Wherein the *Nature of the Blood*, and the *effects*
of *Blood-letting*, are enquired into : and the *practice*
thereof *EXPERIMENTALLY* justified (according as
it is used by *Judicious Physicians.*)

{ *In the Pest, and Pestilential diseases :*
 In the Small Pox :
 In the Scurvey :
 In Pleurifies :
 And in several other diseases.

By HENRY STUBBE, Physician in *Warwick.*

Hippocrat. l. 1. Aph. 27

*VASORUM inanitio si talis fiat, qualis fieri debet, confert, & bene
tolerant : sin minus, contra. Inspecere itaque oportet & regionem, &
tempus, & aetatem, & morbos, in quibus conveniat, aut non.*

Printed in the Year MDCLXXI.

DISCOURSE

CONCERNING

Phlebotomy

IN GENERAL

By Thomas Sydenham, M.D.
F.R.S.

With the History of the Phlegmatic
Humour, and the Effects
of it in the Blood, and the
Manner of its Extraction.

By John Keble, M.D.
F.R.S.

IN TWO VOLUMES.

Printed by J. Sturges, at the
Sign of the Anchor, in Pall-mall.

MDCCLXXII.



TO THE
Glory of His PROFESSION,
THE
Ornament of this NATION,
AND

His most honoured Friend,
Sir ALEXANDER FRASIER, Knight,
Principal Physician to His

MAJESTY.

SIR,



Ere it the *Mode* of this Age
to conferre *Divine worship*
upon *Physicians*, or to erect
them *publick Memorials*,
more Countries than Eng-
land would be your *Idolaters*, and be-
sides,

The Epistle Dedicatory.

sides what an infinite number of the *Nobility* and *Gentry* would *honour* you with, our *Royal Sovereign* would erect a *Statue* to you, as the *Ancients* did to *Æsculapius* and *Higia*, PRO SALUTE SUA ET SUORUM. 'Tis in your *Happy Practise* that we see what *perfection* great *Learning* and long *Experience* can advance a *consummate* *judgement* unto: The most *unlimited* desires whereunto *Ambition* can transport any of our *Faculty*, are but to equal Doctor *FRASIER*. So much *we* may *think* of: So much *we* may *wish* for: But we must reckon *those thoughts* amongst our *extravagancies*, and despair as much of *achieving them*, as the *greatest impossibilities*: I do avow it in despite of *Envy*, *Malice* and *Ignorance*, that the *discovery* of the *Longitude*, or *North-west passage*, is a more *feasible design*. These are not the *customary Complements* of a *Dedication*:

The Epistle Dedicatory.

tion : Whosoever apprehends that *I can flatter*, understands not *me* : and He is unacquainted with *Your worth*, who imagines *You can be flattered* herein. The judgment of the most intelligent Prince that ever sway'd the *English Scepter* hath put an end to all *suspensions* of this nature; and *His Illustrious Elogy* hath rendered all *Panegyriques* needless unto you. I profess I should condemn my self as *intolerably criminal*, should I surmise that any *Address* from *me* could add to *Your Glory* : But *those* who receive no *Accessionals* from our *Applications*, and *Praises*, do notwithstanding permit us thereby to testify our *Respects* and *Gratitude* : And I beseech you to believe that the *presumptuous Declarations* of these *Truths*, is the result of *those Sentiments*. I esteem it amongst the *peculiar Felicities* of my *Life*, to have been favoured by a Person of so transcendent

The Epistle Dedicatory.

dent Merit, and who disposeth not of his Kindness promiscuously : I am rede-
vable unto *You* for some place in the re-
gards of his **Sacred Majesty**, and for
some *Effects* of his **Royal Bounty** :
'Twas the *Character* You gave of *me*,
which procured me that *Employment*,
in which I was designed **HIS MA-
JESTIES PHYSICIAN IN
THE ISLAND OF J A-
MAICA**. Sicknes did *there* inca-
pacitate *me* from acknowledging that
Heroical Generosity of *my Prince* with
any *considerable Service*; But *I* shall
always retain a *due sense* for what *he*
hath done, as well as for what *he hath*
pardoned; and this shall ever be an *in-
centive* unto *me* so to qualifie *my self*,
that *I* may be able to repay *Him* all that
Loyalty to my **KING**, and obli-
gation to my **PATRON** can re-
quire.

Amidst

The Epistle Decatory.

Amidst *these* Protestations, give me leave to tell Sir *ALEXANDER FRASIER*, that I am not now so *esloigned from the World*, nor so fixed on my *retirement*, as that it is *indifferent* unto me whether *He* continue *Me* a place in *His Memory*: 'Tis certain *You* afford *no room* there to what is *vulgar*, and *trivial*: yet *I* cannot but beg to be *indulged* in the *vanity* of this request: and *I* assure *You* *I* bring no *common inclinations* to serve *You*, neither would *I* by *ordinary Testimonies* expresse that passion wherewith *I* am,

Warwick Febr. 14.
1670.

SIR,

Your most humble

and most devoted Servant,

Henry Stubbe.



S I R,

IN obedience to your *Commands*, I have read over the Treatise of ——— *Thomson*, concerning *Blood-letting*: I never underwent a more *difficult task* in my life: And had the *Virtuosi* imagined with what *reluctancy* and *constraint* I should undertake such a work, they would have abandoned all their other *stratagems*, and imposed on me *this penance*, as the most *severe*. I profess, I am not so understanding in the *Greek*, *Latine*, or *English Tongues*, as to comprehend his *Language*: yet I think I am not so much in *default* therein as *He*, who, according to the *peculiar fate* of the *modern Baconists*, hath either *out-lived his Learning*, or never was endued with any. That *He* should pretend to read, or understand *Hippocrates*, is a *vanity* equal to that with which *Ecebolus* professeth himself to be versed in the writings of *Aristotle*: and when he blames the *Method* which the *Galenists* have used above this sixteen hundred years, would not one imagine that the *birth* and flourishing *renown* of *Galen* had preceded those *Centuries*: whereas you must place him in the *second Century*, during the *Reign* of *Marcus Aurelius*, *Commodus*, *Pertinax*, and *Severus*, or you will contradict the account which *Galen* gives of himself, and the relations of other *Historians*: and at such time as he arose, the world was *prepossessed* with *Methodists* and *Empiricks*. But I with his greatest

G. T. Vindic.
of the Lord
Bacon. p. 35.

Lacuna in vita
Galen.

H. Vossius de
Philos. c. 12.
sect. 19. Sui-
das in voce
Γαλῆνος.

A

errors

errors lay in his ignorance of these things. Alas ! he understands not any thing of the Rudiments of Physick ; and to inform him, one must write an entire Body of Physick. Were it not for a few hard words borrowed from Van Helmont, such as Enormon, Archans, Daumvirate, &c. and his extravagancies about fortifying the vital spirits, ejecting the venome, or spina in diseases, and that by a diaphoresis generally, by the means of certain Arcana,

Let D. M. take notice here, that there private Arcana, such as the Quacks pretend unto, concealing the Medicaments and others by that name published in Print, in Crollius, Schroder, and others.

In his Preface to the Reader, he says, He doubts not, the time will come, yea, is not far off, that a Phlebotomist (as he hath characterized him) will be looked

(more famous for the death than recovery of his patients) the man would have nothing to say : And do we wonder at the unfortunate cures for which he is blamed ? or that more than one at White-chappel, should suffer by his ill-advised Pepper-drops ? 'Twere strange, should one that neither understands humane nature, nor the types, times, motions, and terminations of diseases, should ever (except by accident) do any good ; not that He should frequently do harm. But a fool may commit more faults than a wiser man than I, and of more leisure, can discover. I shall confine my present address to the point of Phlebotomy ; wherein he so traduceth the Hippocratical Physicians, as so many murderers, and particularly declaimeth against the most judicious Assembly of our Faculty, that Europe ever beheld ; and who, if they be culpable, are misled by the practice and precepts of that Author Hippocrates, whom he himself often cites, and to less purpose than I might in this controversie alledge him.

Some years since, I designed to write an enquiry into the original, and nature of the Blood, and the usefulness of Phlebotomy in several diseases : in which, abstracting from the single opinions of Writers, I purposed to illustrate each point by practical principles, and ample Histories, out of intelligent and creditable Physicians, concerning the bad or good success with which Blood hath been let in diseases, according to the several Ages of the diseased, and the nature of their maladies, whether Epidemical,

mical, Sporadical, or of a less general constitution. But the Controversies I have been involved in, have so incumbered me, that I have not been able to pursue those intentions, nor have I any preparations almost in order thereunto, as yet digested into writing. But this Antagonist requires not all my strength; a less powerful Assault will suffice to overthrow Him.

'Tis not any kindness to him, but indulgence to my self, that I do not pursue all his errors, even in the generation of blood; or go about to convince him of the several mistakes which he is fallen into, for want of reading more modern Writers, and their discoveries. Beyond Helmont, or in contradiction to him, the man neither does, nor will understand any thing: And even in that Author he seems so little conversant, that he sometimes mistakes him, and generally represents things with more obscurity and intricacy, then they are expressed in the originals of Van Helmont or Grembs.

Of those that have opposed Phlebotomy, these are not the first, which this Century hath produced: long ago Galen complained of Erasistratus, (the sisters son of Aristotle) that he was ἀποφθόνος, fearful to let his Patients blood; before him, Chrysippus Cnidius, Medius and Aristogenes, did reject the usage: Also Apemantes, together with Strato, are recorded to have contradicted the practice of Phlebotomy, by Arguments: The strength of that faction in Physick, was such at Rome, in those times, that Galen spent several books against the followers of Erasistratus upon this subject. But above all that ever intermeddled, I will give this character to Thomson, that never did any presume more upon so weak grounds: Nor ever was Confidence so poorly mounted, and so pittifully be-jaded.

After much trouble and enquiry, the sum of all, he says, in this case, amounts to this.

The promiscuous mass of Blood which flows in the Veins and Arteries, he divides into three parts: the one

is called by him the *Latex*; the second *Cruor*; the third *Sanguis*, or most properly *Blood*.

G. 27. of the
Blood, p. 19,
20.

The *Latex*, so called by *Helmont*, by some *Lympha*, by the *Greeks* *πάσις*, is a *diaphanous clear liquor*, *ἄνιστος*, fabricated in the second digestion, by virtue of a ferment there residing. It is the inseparable companion of the *Blond*, and closely perambulates with it through all the wandering *Meandrous pipes* in this *Microcosme*. It is the matter of *Urine*, and *Sweat*, *Spittle*, &c. and renders several other considerable services to the body.

Ibid. p. 22.

The *goodness* or *pravity* of the *Latex*, depends much upon the *blond*, as it is constituted; for, albeit it is no *essential part* thereof, yet is it altered for better or worse, according to the *channels* it passeth through, the *lodging* it taketh up, and the condition of its *associate*: notwithstanding that it may be sometimes impaired in its due *excellency*, and the *blond* withall remain very pure and sincere.

Ibid. p. 1, 2,
and 34.

The second part is called *Cruor*, from *κρῶς*, i. e. *Crudus concretus*: It is the more *crude impure* part of the *blond*; the *purier* part of the *chyle* being digested into a *saline juyce*, is carried into the *milky vessels*, and *veins*, and mingling at last with that *ruddy liquor*, is called *Cruor*, and at last becomes perfect *blond*. It undergoes manifold guises, and is often the subject matter of a multitude of diseases, being sometimes changed into an *Ichor*, *Tabum*, or *Sanies*.

Ibid. p. 2.

The third part is properly called *Sanguis*, or *Blond*, *καὶ ἰσόχρουν*, it is a most pure sweet *Homogeneous*, *Balsamie*, *Vital juyce* (for the most part of a bright *Red*, or *Reddish* colour) made by the *Archaus*, by virtue of ferments implanted in the ventricles of the *heart*, *lungs*, *veins* and *arteries*, causing a formal transmutation of the *Chyme*, or *milky substance* into this *sanguineous liquor*, ordained to be the seat of *Life*, and the principal matter for *sense*, *motion*, *nutrition*, *accretion*, and *generation*.

It

It is for good reason called *Balsamum, seu Condimentum totius corporis*, forasmuch as it hath a *sanative* power, Some peoples flesh will not heal upon the least cut, notwithstanding sweetly uniting all the parts of the body, for the consp. ration of the good of the whole.

this Sanative quality in the Blood.

It is a great *preservative* against putrefaction, as long as it remains in its integrity, for consisting of many *saline* particles, it seasoneth whatsoever it toucheth with a pleasing *sapour*. Yet are several glandules sweeter to taste, than the sanguineous, fleshy parts of Animals.

It is the proper *habitation* of the *vital* spirit, the immediate instrument of the *soul*, in which it shines, displaying its radiant beams every way, that *sensation, motion, nutrition*, and all other functions may be exquisitely performed. What becomes of the duration of the soul? And may I not ask, if the Spirits be not

The immediate Instruments of the Soul?

God and Nature never intended other, then that the *blood* should be *Homogeneous*, pure, plain, symbolical Ibid. p. 5. with that single principle of the *Universe*. Now these If God and Nature intended the blood for so pure and homogeneous a liquor; why did they produce man with such a fabric, that the chyle (several ways tinged) Peripatetick Philosophers deliver to the world, that the contexture of this *vital juyce* is made up of *Choler, Phlegm, Melancholy*, and *Blood*, which united, produce this compounded body, which we call *Sanguis*: How grossly erroneous and dangerous this *Tenet* is, most Learned Helmont hath made evident.

god) should mix with it in the sub-clavian veins?

Wherefore we conclude with that noble Philosopher, Ibid. p. 6. that *Bloud* is an *Univocal substance*, divisible only by some external accidental means, as the *Air*, or *Fire*, which cause a various texture, and different position of its *Atomes*, whereby it seems to consist of parts which are not really inherent in it, as is manifest in its degeneration from its

its native colour, sapour, consistence, and goodness, which it had before it became corrupt in the pottinger, or underwent the torture of fire. Both of which do strangely larvate and disguise the *puniceous Balsome*, giving occasion to the *Galenists* to frame their *four fictitious humours*, no where really existent.

This being the foundation of all his declamations against *Phlebotomy*, before I proceed any farther, it may seem requisite that I should make some *Animadversions* thereon;

I might take much notice of, and display his errors, as to what he says, that the *Latex* is by the *Greeks* called *πῆξ*: this is the first time I ever read it called so: the usual terms being *ῥῆμα*, *ἰχὼρ*, and *ὕψωρον*. The notion (whatever *Helmont* say) is not new at all: an hundred *Galenists* have mentioned and treated of it, as the vehicle of the blood and nourishment. But that *cruur* should come from *κρύος*, *crudus concretus*, is an opinion singular to the *Baconical Philosopher*. That *κρύος* doth signify cold, I know well: and that *cruur* properly signifies the blood of dead people, or the mortified blood issuing from putrefied wounds, I no less understand; though *Authors* frequently confound it with *Sanguis*; But that his *Latex*, and the *Lympha*, so called by *moderns*, are the same, is news: for, it is not held that the *Lympha*, in its peculiar form, was pre-existent in the *Arteries*, and, as such, did accompany the Blood through the *Meandrous pipes*, but is generated as it is discharged into the *Lymphaducts*, and from them is re-mixed with the blood: And, if it were, yet would not the definition of this *Latex* agree with it: for the *Lympha* is no inseparable companion of the blood; as appears by its peculiar vessels: it is seldome a diaphanous clear liquor, being commonly tinged with several colours, ostentimes whitish, sometimes yellow, or,

Glisson. de hepate, c. 45.
Charleton. Exercit. Anim. sect. 9.
Glisson. Anat. hepatis, c. 45.
Quippe tota hæc Lympha, aut experientia, compertum est, densior, minusque pellucens, & interdum lactis instar albescent, aliquando sufflava, & nonnunquam lorum a carne simile. Vide Chariton, ubi supra.

as it were *stained with blood*. And whereas this *Latex* is devoid of all *sensible qualities*, those who have experimented the *Lympha*, do not find any such thing, but a variety of *tastes*: Nor is it true that the *Serum* which accompanies the *Blood* is such a *Latex* as our *Helmontian* describes; it being never (to my taste) free from a *salsuginous savour*, (though it retain that with a great *Latitude*) nor devoid of colour, so as to be clear and *diaphanous*: and 'tis very seldome seen, that the said *Serum* will not ^b coagulate, unless *preternaturally*) upon a gentle fire: so that it is no more to be termed a *Latex*, than the *whites* of eggs beaten to the like *fluidity*: In like manner that in the *Lymphæducts* will ^c coagulate, as *Bartholin* observes, and others.

^b Centies factò experimento, vadi semper serum ipsum non modo leviter incrassari, sed agglutinari si-
quæ membræ

*neum. H. Barbat. diff. de sangu. & sero. pag. 16. c. Th. Bartholin. Spicileg. p. 71. M. Bog-
dau. apolog. adv. O. Rudbek. lect. 116.*

As for the *Cruor*, that there are *graduations* of the *Blood*, as to its *crudity* and *impurity*, is no doubt amongst the *Galenists*: and that it may oftentimes transcend the state of *due maturation*, and so become *degenerate*, is as easily granted, as that it should come short of its desired perfection; and when this *Blood* degenerates any way into a *Tābum*, or *sanious matter*, I must tell him, that *Aristotle* and his followers acquainted us therewith, before that *Helmont* was ever heard of, whose *Cruor* bred in the *Liver*, and distinct from the *Blood*, impregnated with *vitality*, is such a piece of *non-sense*, as ought not to be mentioned in this *Age*, but to *Baconical Philosophers*, who, not only connive at, but applaud any *Hypothesis*.

Vide Hofman.
de Ichoribus,
sect. 71, &c.

Concerning the *Blood*, when I read the *Elogies* he bestowes upon it, as the *Seat of the Soul*, by which *sensation*, *motion*, *nutrition*, *generation*, are performed; I thought upon the opinion of *Aristotle*, and his zealous sectators amongst the *Physicians*, who have denied all *Animal spirits*, fixed the *principality* of the *Members* in the *Heart*,
and:

Dr. Willis de
 riment. c. 6.
 Kerger. de fer-
 mentat. sect. 1.
 c. 11.

F. Venus capiti
 nunquam ta-
 lem mucosi-
 nem afflucen-
 tem vidimus,
 crebrius e ve-
 nis brachii, e
 pedum autem
 venis creberr-
 me, & in ma-
 jori copia.
 Alchius fun-
 dam. medic. de
 usu Cordis.
 p. 259

and from thence derived even the *nerves*. If *G. T.* will defend the generality of his *Affertion*, I assure him that *Hofman*, *Van der Linden*, and *Harvey*, will be more serviceable to him than *Van Helmont*: But this *consideration* hath little influence upon the present Controversie: that which follows hath nothing of *Truth* in it: that the *Bloud is an Homogeneous, pure body*: for nothing homogeneous can ferment: But it is most evident, that the *bloud is in a perpetual fermentation*, and that it is such a *liquor*, as is constantly *generating*, constantly *depurating*, and constantly *expending it self*: so that nought but *Imagination* can represent unto us such a thing as *pure bloud*: and I hope the *specious pretences* of a *Real Philosophy*, will not terminate in *Speculation* and *Phansie*. When the *bloud* either *naturally* issues forth, or upon incision of a *vein*, it representeth unto us different *Phænomena* oftentimes in several porringers, and in the same porringer *different substances*; sometimes a *supernatant gelatine*, and *mucus*, a *coagulated mass*, consisting of thinner, and a *less fibrous crimson*, and a *grosser, and more blackish-red body, enterwoven with fibres* (both which may be washed away from the *fibrous part*) and a *serous, fluid liquor*, sometimes *limpid*, sometimes of a *bilious, or other colour*, in which the *concreted mass of bloud* doth float: All these, with other *Phænomena*, (in a great variety) are to be seen in the *aforesaid cases*: and even the *Bloud* of the *same body*, as it issues from *several veins*, furnisheth us with matter for *different observations*. Now in a *liquor* so pure and *Homogeneous*, as our Disciple of the Lord *Bacon* imagineth the *Bloud* to be, though we should suppose the *Air* to corrupt it, as it *issues into*, and *settles* in the *pottinger*, yet would the *corruption* thereof be *uniform*: which, seeing it is *not*, I take it for *demonstrated*, that it is *Heterogeneous*: And that being granted, it matters not whether the *four humours* (so frequently mentioned by *Physicians*) be *actually* or *potentially* in the *blood*: Whether they be the *constitutive parts* thereof, or whether it be

be one entire *Liquor*, made up of *Heterogeneous* parts, which, in the bodies of sundry individuals, produceth such *Phænomena*, as if it did consist of such *Alimentary Humours*, and degenerates occasionally into those others that are *Excrementitious*: In order to our practice, 'tis all one for it to be so, and to appear so: and our documents are nevertheless useful, though they seem not rigorously true. The *Galenical Physicians* are not herein agreed; nor is any man confined in his sentiments, about this subject: 'Tis malapertness in this *Bacon-faced* generation, to dispute these points, since the *phenomena* of diseases, and the operation of *Medicaments* doth correspond with this *Hypothesis*, and are as adequate thereunto, as humane nature (which is not capable of an exact knowledge, and ought to acquiesce in what is useful) can adjust them. Nor is it any more of disparagement to *Physick*, that should be built upon so tottering a foundation, then that the Temple of *Diana*, one of the wonders of the world, should be situated upon a bogg.

Hitherto I have examined his preliminary discourse of the *Blond*, and its concomitant *Latex*, and have made it evident, that this person understands not what he asserts, nor what he rejects: and indeed such is his ignorance, that after so much study, "having rolled every stone, and searched out every scruple, to be informed concerning the truth of the *Galenick*, and *Helmontian* way, p. 87. he understands neither *Nature*, nor the *Galenists*, nor *Van Helmont*. I now come to examine his Arguments against *Phlebotomy*, which, if they be so weak and inconsiderable, as not to justify so extraordinary an impudence, let him blame himself not me, who do not intend (if possible, in such a confused, obscure Treatise) to injure him to the recital.

His first Argument against Phlebotomy.

"Had they but considered how this vital moisture p. 6, 7.
[the Blood] ebbs and flows in goodness and pravity,

B

upon

upon slight accidental occasions of any exorbitant pas-
 sions, as fear, sorrow, anger, &c. the manifold impres-
 sions of the ambient Air, ill Diet, immoderate exercise,
 divers excessive evacuations, and long retention of any
 excrement: did they rightly understand how blood,
 like Mercury, may be polymorphised, and changed into
 different shapes, and at length be retroduced to the same
 state and condition, as when it was in its primitive es-
 sence: certainly then these Dogmatists would never be
 so forward to pierce poor man's skin, rashly let out and
 throw away that substantial support of life, foolishly and
 falsely apprehending that to be totally corrupt, and de-
 prived of what it was in its former being, and in no
 wise capable to be retrograde, and return to it self
 again; because it seems to their eyes when it appears
 abroad discoloured; invested with a contemptible appa-
 rel, as yellow, green white, blue, &c. ——— "suppo-
 sing it to be corrupt, and so unfitting to be retained
 within the verge of life. It is no such matter, I can
 maintain: for this superficial alteration proceeds from
 the Air, spoiling it of its pristine goodness, not that it was
 really corrupted in the vein. For the demonstration of
 this, I will undertake, upon forfeiture of a great penal-
 ty, to open the vein of a Cacochymic body, emitting
 about two or three ounces of the visible aforelaid dege-
 nerate matter, then stopping the Orifice, make use of
 proper remedies to this Individual, whose habit I doubt
 not so to alter in the space of about a fortnight, that
 no such putrid matter as they improperly call it, shall
 be found in any vein whatsoever opened; which may
 fully satisfy any sober enquirer after truth, that the cor-
 ruption was never really existent in that, whilst it was
 in the vein, which, in so short a time is thus redintegra-
 ted: for Corruption being an absolute privation of that
 formal essence of the thing: and sith there is no retrogra-
 dation in this kind, that an Ens losing its form by disso-
 lution, should assume it again, Nam a privatione ad
 habitum.

habitus non datur regressus: it infallibly follows, that
 this juyce thus restored, *Technicas*, by Art, was never
 truly corrupted, as they would have it. Hence it fol-
 lows, that the fair pretence of the *Galenists*, that the
 juyce drawn out of the Patient, forasmuch as it is corrupt
 in the perringer, is happily discharged: appears a mere
 imposture, contrived on purpose to stop the mouth of
 those who scruple and question *Phlebotomy*.

This is the principal Argument which he hath against
Phlebotomy; yet doth he so handle it, as that the only
 evidence it carries with it, is, that the Author is a most
 illiterate person.

It is very ignorantly done of him, to make as if the
Galenists in general did let their Patients blood, merely
 for a *Cacochymy*, or depravation of the blood, as if it were
 a Rule amongst them, that Whensoever the blood is de-
 praved, vitiated, and corrupted, it ought to be emitted
 by *Phlebotomy*. Whereas there is not any tenet amongst
 them more general, then that *Cacochymical* bodies re-
 quire purging; the *Plethorick*, or such as are in dan-
 ger to be surcharged with excess of blood, require
Phlebotomy; nor do they recede from this resolution, but
 in urgent cases, and with deliberation: and many are so
 cautious herein, that if the blood appear in the perringer
 to be of an evil colour, and very corrupt, they enjoin us to
 stop the vein presently, and not continue or repeat the eva-
 cuation. I shall set down the words of *Horatius Augenus*.

Hic vulgarium Medicorum error detegendus est. Horat. Augen.
de miff. sangu.
l. 9. c. 24.
*Putant quo sanguis impurior fuerit, & à sua na-
 tura magis alienus, eo plus detrahendum, & in
 hoc mirifice sibi placent, in vulgusque propo-
 nant admodum utilem factam fuisse vacuationem,
 quod corruptissimum pessimumque sanguinem va-
 cuaverint. Tu vero cui in animo est humano ge-*

neri prodesse, & Medicinam inculpate exercere contra facies; quanto enim magis sanguinem videbis à propria natura discedere, tanto minorem quantitatem vacuabis, & aliquando (nisi copia urgeat cacochymiae permista) à venae-sectione prorsus abstineto.

Nor is this the judgment of a single writer; hundreds are of the same opinion: the Learned L. Septalius. Animadv. Medic. l. 4. sect. 2. is of the same judgment. In sanguine detrahendo cavendum maxime, ne, quanto putriorem, & deterioris conditionis sanguinem à vena profluere viderimus, tanto majorem quantitatem effluere sinamus: quod plurimos facere observamus: tali enim existente sanguine, & pauciores subesse spiritus constat, & vires facillime solent collabascere.

Petrus Castell.
de abusu Phle-
bot. pag. 73.

Galen and Avicenn are alledged for it: And it ought with less reason to be objected in England, because our Physicians generally (as likewise are the Germans) seem not so prodigal of the blood of their Patients, as to make a Cacochymie, much less, a *Quadragesima*, or total corruption of the sanguineous mass to be the proper indication for bleeding: nay, most that hold Blood-letting in great diseases arising from Cacochymie, to be a necessary remedy, (not indicated by the depravation of the blood, but violence of the disease;) they are cautious in the quantity which they take away, because in such an habit of body the strength of the patient is seldom great enough to bear much.

Alex. Massaria
Apolog. l. II.
disp. I. c. 14.

Out of which it is manifest, that what he says about the impurity of the blood in the porringer, that tis an excuse or imposture used by the Galenists in defence of Phlebotomy: it is a fiction of his own, not made use of directly by any but the followers of Botallus: the rest will give him other reasons for their practice, than a Cacochymie alone, or total corruption of the mass of blood.

A farther mistake it is in him, that he represents the Galenists as such pitiful fellows, that should not know but that each corruption of the blood is incorrigible, and there-

therefore let it out. It is true, that we do hold, that it is possible for the blood to be so vitiated, as to be incorrigible, and that one may as soon hope to see the regrefs from a total privation, as it restored. This hath been observed in pestilential diseases sometimes, and in sphacelated parts: and perhaps I may be allowed to reckon as such, the blood of that person in Fernelius; which was universally coagulated in the veins; so as to be taken out as 'twere branches of coral: And that woman's in the observations of Pacheco, whose blood in a continual fever did issue out, upon Phlebotomy, as cold as Ice, or Snow: the like to which, in the spotted fever is taken notice of, as a fatal prognostick by Petrus à Castro. If Flempius give me leave, I would reckon in putrid fevers, that blood to be incorrigibly depraved, which doth not coagulate, and is destitute of its fibres, since Fernelius and others esteem of such as an evident testimony of the highest putrefaction. It is also true, that we do hold, that where diseases are ordinarily, or frequently curable, yet by accident from the idio-syncrasie of the patient, or some other intervening cause, the blood may be continued in such a vitiated estate, as to be incorrigibly corrupted, and yet its essential form not lost; as in case of Cancers, Hypochondriacal and Scorbutilical distempers, Scirrhusities of the Liver, Spleen, and Mesentery, Leprosies, knotted Gout, calculous indispositions, &c. I might mention other cases, but they relate not to the present controversy, and I have already said enough to shew the ignorance of this Baconist. To come nearer to the main matter; It is true, that we do hold, that in many distempers, as in the Scurvey, putrid Fever, and some others, the mass of blood is so putrified and corrupted, that even that which is termed more strictly Blood, is depraved sundry wayes: for, if the vessels that generate and convey the Chyle, and the Chyle it self be corrupted, 'tis impossible but that which is produced and supplied daily out of the Chyle, should participate of its pravity, and so much the more in that they flow intimately commixed in the same Arteries and Veins: But that

Fernel. Physiol.
log. l. 6. c. 7.

River. obs.
communicata
à Pacheco,
obs. 46.

Petr. à Castro,
de febre ma-
lign. pag. 90.

Fernel. Thera-
pent. Univ.
l. 2. c. 17.
Sennert. de
febr. l. 2. c. 1.

This he might
have learned
from Galen,
in his Comment
upon Aphor.
17. 1. 2.

that in such cases we hold the Blood to be so depraved, as to have lost its formal essence totally and irrecoverably, is most notoriously false: and any man may see hence, that this Ignoramus understands not the Galenical way, but deserted it, before he had acquainted himself therewith. We do hold that the blood and associated humours may come to a partial putrefaction, and yet be recovered again: and 'tis this recovery and redintegration that we design by our practice, and if we cannot effect it totally, yet that we aim at, is, to concoct the several humours, so that what there is of them that is alimentary, and agreeable to nature, may be mitigated and retained, and the rest so digested, as that it may be with ease and safety ejected the body, and so the Mass of blood regain its former lustre and amicableness: This being the grand intention of the received Method of Physick, 'tis one thing to debate whether blood-letting, practiced according to Art, (for we are not otherwise concerned in the Quarrel) be a suitable proper means to atchieve our purposes? And another, to say, that we pierce poor mans skin, and rashly throw away the support of life, out of a vain apprehension, that it is totally corrupt, and depraved of its former being, and no wise capable of being retrograde. This cannot be said without an apparent injury unto us: We know the variety and fallaciousness of colours, and by our rules, can well conjecture how far the Humours are vitiated, what may be concocted in order to the nutriment and benefit of nature, and what matured to a convenient ejection; And we do utterly deny the consequence of this Argument, though we grant the Assumption: Viz.

If the blood be of such a nature that it may be recovered to its pristine colour and vigour, without Phlebotomy, then ought not men to use Phlebotomy.

But the Blood, like Mercury, may be polymorphised and changed into divers shapes, and at length be reduced to the same state and condition, as when it was in its primitive essence. Ergo.

The

The *Assumption* I can grant, but not where such a practitioner as G. T. is made use of. I doubt not but the followers of *Erasistratus* could effect it by their *Fastings*, *Frictions*, *Bathes*, and other remedies used by such judicious men: I grant, that *robust nature* doth daily produce such rectifications of the blood, in many that make no use of a Physician: But as willing as I am to gratify my Adversary, I should not yield thus much to *Helmont*, or such as practice with *Arcana*, and commanding *Medicaments*.

To the sequel of the Major, I reply, that albeit that Nature may oftentimes do miracles, yet are not miracles to be presumed upon: It is possible for the sick to recover without any means, yet are means to be used; the omission thereof is imprudent, and criminal, but the use thereof (if the Physician be knowing and discreet) safe, and as secure as the condition of our mortality permits any thing to be: A few dayes or hours of the encreasing distemper will more impair the strength of the sick, than the loss of a little blood, which, in the condition it is, adds not to the vigour or nutriment of the diseased; the damage will be easily repaired, and perhaps all this misery will be to no purpose, for, after a multitude of vexations (sometimes dangerous) symptoms, Nature may produce in the almost exhausted patient, a violent eruption of blood, and thereby terminate that malady which might have been alleviated, or allayed before. *Fluxus sanguinis largi ex naribus solvunt multa*, Hippocr. Epid. ut Heragoræ. Non agnoscebant medici. The Blood for sect. 1. l. 2. which they are so solicitous, Nature her self is not so careful to preserve it, but that frequently in the beginning and progress of diseases, she alleviates her self by discharging it out of the nose, and that in greater quantities of more florid blood than the Lancet would take away: This evacuation is of all the most facile, the most easie to be regulated by the Physician (since he can stop it when he will) and the most innocent in the beginning and increment of diseases.

It is not a remedy which is used in the blood.

*Fiennus de signis
medicis, par. 2.
c. 1. sect. 8. &
Francisc. Ru-
bens Nocturn.
exercit. in Hi-
stor. Medic.
exerc. 5. p. 98.
99, 100.*

*Prosper Alpin-
de prælag. vita
& morte, l. 7.
c. 2.*

"Sanguinis eruptiones & hæmorrhagia hanc habent prærogativam præ aliis evacuationibus, quod ipsæ etiam in principio & in aliis temporibus, etiam si non adsint signa bonæ coctionis, possunt esse magis utiles, quam aliæ evacuationes, quæ fere semper sunt malæ, ex eo quod sanguis semper per apertas partes fluunt, & semper libere & commodum exire possit, nec eget præparatione & concoctione, sicut alii humores, qui per alias evacuationes excerni debent. — In evacuatione, quæ per venas apertas fit, nullam merito expectamus concoctionem; & hinc Medici secta vena in morbis acutis in principio mittunt sanguinem; hinc & spontinæ sanguinis evacuationes bonæ erunt: Addatis, sanguinis eruptiones copiosas, nedum utiles fieri, propterea quod sanguis malus una excernatur, sed etiam quoniam ejusdem sanguinis evacuatio universum corpus refrigerat, caloremque transpirabilem, & corpus diffabile facit. Quare hac ratione excretiones sanguinis optimæ erunt, quæ in statu apparent, plene cocto existente morbo, sed neque ea, quæ cum cruditatis signis fiunt, erunt plane abhorrendæ & timidæ. — In fine, that prudence which obligeth us to self-preservation, obligeth us to the most probable courses in order thereunto: and what can seem more rational, than that which NATURE directs us unto, that whereby she so happily mitigates and concludes diseases, that which so many Ages have recommended unto us, and in the use whereof, not only Greece and Rome, but all Nations universally, as well barbarous as Civil are agreed on?

And thus much shall suffice for an answer to his first Argument: I now proceed to the second.

"The Blood is the support of Life; and we are taught by Divine Writ, that in the Blood, that Spiritus rubens is Life. (How often have we heard of it?)

I answer, That the Scripture, in the places aimed at, cannot be understood literally, and properly: for then the words

words infer, that the *Beasts have no other soul than the blood*, Deut. 22. 23. *only be sure that thou eat not the blood; for the blood is the soul, and thou mayest not eat the soul with the flesh*. Thus it runs in the *Original*, though our *Translation* renders it *Life*. And so *Levit.* 17, 10, 14. in which last place 'tis said, that *the blood is the soul of all flesh*. Nay, in *Genesis* c. 9. v. 5. Concerning man, 'tis said, *The blood of your souls will I require*. It remains then, that deserting the *literal sense*, we fly to some that is *Analogical*: And hence it is that most *Divines* take the word *שׁוּל* for *Life*. Thus *Exod.* 21. 23. *Thou shalt give life for life*, is not incongruously rendred instead of *Thou shalt give soul for soul*. Thus the *Civil Lawyers* frequently stile *Loss of Life* by the phrase of *Anima amissio*. But however these passages may be *popularly current*, yet in *Philosophy* and *Physick*, when we would speak *distinctly*, and argue *firmly*, 'tis not to be allowed of for *Truth*, that the *Blood*, or *Spiritus rubens*, (as our *Helmontian* most non-sensically terms: for, as great a *Pyrotechnist* as he would seem, 'tis past *his Art* to demonstrate, that it is a *Spirit*, or *Chimically* to educe a *Spiritus rubens* out of it) is *Life*: for *Life* is nothing else but the union of the soul with, and its presence in the body: or, to declare it by its effects, 'tis the conservation of all those faculties and actions which are proper to the animated creature; as *Death* is the extinction of them. Out of which 'tis evident, that *Blood* is no more properly called *Life*, than 'tis possible for the *Definition* of *Life* to be acomodated to *Blood*: that is not at all. But since *common discourse* doth allow us often to fix the *principal denomination* upon the *chief instruments*; and that the *Scripture* explains it self, *Levit.* 17. 11. and what my *Adversary* in one place calls the *LIFE*, in another, he terms it, the *principal support of Life*: let us consider how far that is true: That the *Blood* is not so much as a *part of the body*, (but the *Aliment thereof*) is the assertion of most *Authors*; it is not continuous to the rest of the body, but floateth as *Liquor* in a

C

ves-

Scaliger de
subtil. exercit.
102. sect. 5.
Fernel. Phisio-
log. l. 5. c. 16.

Valles. sacr.
philos. c. 5.
p. 102. Fernel.
Physiolog. l. 2.
c. 13

vessel: and in vulgar speech, no man takes the loss of blood for a mutilation, or dismembring: and there are sundry distempers and phenomena, which conclude in favour of the spirits, (or what is Analagous to them) and the Nerves, to assert their pre-eminence above the Blood, and its Vessels: and whatever may be said concerning Generation, (which is very disputable) 'tis a certain mistake in our Helmontian, to make the Blood the principal matter for sensation (whereas sanguine persons are not the greatest wits, and the senses are most quick in women during their lyings in, after a great effusion of blood, as also in dying persons) or motion, which is not in paralytick members, though the Blood flow unto them continually, as it was wont before. I add, that there is not any convincing Argument to prove that the Blood is animated: I confess the conjunction of the soul and Body, and operations consequent thereunto, are most mysterious unto me: and I think it no less true that our Life is a constant miracle, then that we are at first wonderfully framed: nor can I determine what particular use the soul makes of all the parts and ingredients of our humane bodies: But this appears unto us daily, that the conjunction betwixt the Soul and Blood, and the dependance of our Life thereon, is not so great, or intimate, as that upon the effusion of a little, no, nor of a great deal of the blood, Death, or any debility, extraordinary and durable, should ensue unavoidably: and if it happen but sometimes, 'tis apparent thereby, that 'tis but accidental, and not a proper consequence of that effect: 'Tis manifest, that the operations of the Soul are not restrained to one determinate proportion of blood in every body: nor to the same in any: albeit that there seem requisite in all Animals, that there be some blood, or what is equipollent thereunto: 'Tis also manifest, that this Blood, (for which some are so sollicitous) doth continually expend and waste it self in nutrition, (and that even the nourished parts are in a continual exhaustion) so that without supply, it would degenerate into

Plempius fundam. medic.
l. 2. c. 1.

Botallus de
lingu. nat.
c. 34.

into choler, (except in those *miraculous fasts*) and diminish to little or nothing: as appears upon great fastings, and several diseases. 'Tis no less manifest, that upon great evacuations of blood, by wounds, or otherwise, when the Blood hath been so exhausted, that very little can be imagined to remain, yet in a few dayes the veins and arteries do fill again, ^{Id ibid. c. 33:} and nature is so replenished and vigorated, that this lost ^{lect. 7, 8. & c. 35.} blood seems not only as good, in order to the functions of life, but better, in order to health and strength, since the production of this last (in the end of diseases) is accompanied with convalescence, whereas the precedent did not hinder the indisposition.

Out of what hath been said, the Answer to this Objection is facile: viz. The Blood is not so the seat and residence of the Soul, nor so absolutely necessary to Life (granting all that can be desired of us) as that some of it may not be let out, without present danger, or irreparable detriment: so that, if the motives for Phlebotomy be cogent, or so probable, as to render the Action prudential, no difficulty can arise from this scruple. It is written in Deut. 24. 6. No man shall take the upper or nether milstone to pledge; for he taketh a man's life [or soul] to pledge. Here the milstone is called the life or soul of a man, as much, and as properly, as ever the Blood is any where else: But, though there be a prohibition for a man to deprive his poor neighbour thereof, as of the support of his Life, yet undoubtedly none was ever interdicted by virtue of this precept, to help the distressed Miller to pick and dress his Milstones.

His third Argument is this.

“ Moreover, one would think, it should put a stop to
 ‘ their prodigal, profuse bleeding, if they did but consider,
 ‘ with what difficulty Nature brings this Solar Liquor to
 ‘ perfection; how many hazards of becoming spurious and
 ‘ abortive, it passes through; how easily it is stained by an
 ‘ extraneous tincture; how often intermixed with some-

‘thing *allogeneous* and *hostile* to it; how many elaborate
 ‘*circulations, digestions, and refinings* it undergoes, before
 ‘it be thoroughly *animated*, and made fit for the right *use*
 ‘of the immortal Soul.

One would imagine by *this Objection*, that the *Generation of the Blood*, were as difficult a work, and required as much of *solicitude*, as the *Philosophers stone*; and that the *least error* would disappoint the *process*, and eject the *poor soul* out of its *tenement* and *mansion*. But there is not any such thing; he that considers the perpetual supply of *Chyle*, by the *Ductus Thoracicus*, and with how much ease it is transformed a great part into *Blood*, by the *similar action* of that which *pre-existed in the veins*, (together with the *concurring aid* of the *Heart*, and *sanguiferous excretory vessels*; and the *previous alterations* in the *stomach* and *intestines*) will imagine neither the *production of Blood*, nor the *reparation of it*, to be so *tedious* and *hard a matter*: Nor is it true, that the *Blood* is so easily stained with *hostile tinctures*, since it is a *liquor* that is in *perpetual depuration*, and hath the convenience of so many *out-lets* to discharge it self by. Neither will every *crudity*, in the *immature Chyle*, or *blood*, render the *blood* unfit for the *use of the immortal soul*: there is *extraordinary*, and *unimaginable difference* betwixt the *blood* of one person and another, (as appears upon *distillation, burning, and mixing it with other liquors*) yet are all these within the *latitude of Health*, and with *equal perfection*, exercise the operations of *Life*: Nor doth every *allogeneous mixture* vitiate or deprave the *blood*; for the *Chyle, Blood, and Flesh*, retain *some particles* of the *original food* taken into the *stomach*: hence it is, that *sheep* fed with *pease-straw* (though as fat as others) yield a *flesh* differently tasted from other *mutton*: the like is to be observed in the *feeding of other Animals* generally: Nor is this more evident in *other Animals*, than ’tis in *Men*; for, not to mention those *Medicaments*, which, by the alteration

tion they make in the *Urine*, do demonstrate they have passed along, and been once mixed with the *bloud*; as *Cassia*, *Rhubarb*, *Annise-seeds*, &c. “ *In fonticulis observavi, quod si precedente die aliquis allium aut cepam comederit, pus quod in fonticulo est odorem allii aut cepae obtinebat: sanguis autem qui per fonticulum expurgatur, non nisi per venas expurgari potest; unde possumus dicere, quod sanguis acutum odorem detinere possit.* The like phenomenon is to be observed in wounds and ulcers, which feel detriment, according to the various food and drink of the patient. Nay, in pleurisies, and other wounds, it hath been taken notice of, that the purulent matter hath discharged it self by the veins, (re-mixing with the bloud) into the intestines, and by urine. The Bloud of some persons in perfect health, hath been observed to stink worse than rotten eggs, even as it was issuing from the arm, upon Phlebotomy; yet when it was cold, it did not stink, nor seemed to differ from the best bloud, except that it was of a more beautiful red than is usual. I conclude therefore, that in this Argument many falsities are contained, and there is nothing of such force, as to deter a prudent Physician, who understands the rules of his Art, and those cautions which are suggested to us in Phlebotomy, to let his Patient bloud, and emit some of this solar Liquor.

Domin. de
Marchettis,
Anatom. c. 9.

Domin. de
Marchettis,
Anatom. c. 10.
Paracelsi chi-
rurg. l. 16.
c. 49.
Simon Pauli
de febr. ma-
lignis sect. 11.

His fourth Argument.

“ They should never attempt, yea rather abhor, to p. 89, 90.
“ enervate in the least, by the Lancet, the strength, with
“ its correlative bloud and spirits, without which there is
“ no hopes of attaining a desired Cure. For it is a most
“ established verity, taught by Hippocrates, that *Natura*
“ *sunt morborum medicatrices*, the most assured means of
“ sanation, is to keep up the vital pillars, without which,
“ all falls to ruine. So that Van Helmont is without con-
“ troversie in the right, when he sayes, *utcumque rem ver-*
“ *teris, ignorantia plenum est procurata debilitatu sanare*
“ *velle.*

* velle. i. e. make the best you can thereof, It favours of
 ' gross ignorance, to assay to heal, by bringing one into
 ' a weak condition. And p. 84. *de febr. Satis sit, satis*
 ' *sit Medico* (saith the same Author) *quod ager alioquin*
 ' *inexcusabili debilitate labascet, per morbum, medias, in-*
 ' *appetentias, inquietudines, dolores, anxietates, vigilias,*
 ' *sudores, &c. neque idcirco fidus auxiliator debet debilita-*
 ' *tem addere debilitatibus; fraudulentum est sublevamen*
 ' *quod vera sectio affert; ejusque tam incertum est remedi-*
 ' *um quod nemo medentum hactenus ausit polliceri sanationem*
 ' *inde futuram.* One would think it is enough, and too
 ' much, for the poor sick man to be brought low with the
 ' disease, fasting, want of appetite, restlessness, pains, an-
 ' guish, watchings, sweatings; wherefore, in such a
 ' case, whosoever is a trusty supporter, ought in no wise
 ' to add weakness to weakness: all the succour the Lan-
 ' cet can afford is deceitful, and all the address thereby
 ' is of such uncertainty, that no Physician dare venture
 ' to make a promise of a perfect cure by this means, and
 ' to keep one from a relapse.

I must except against the authority of *Van Helmont*,
 in the case, as of a person whose credit is sufficiently
 taken off, by what I have alledged elsewhere: I must
 not be concluded, but by the judgment of (a) under-
 standing practitioners: and in *Physick*, I must not allow
 him to have been an intelligent person; and it is notori-
 ous, that he was a man of no practise, and conse-
 quently no fitting judge of the efficacy and ineffica-
 cy of Medicaments. It is a saying in the *Civil Law*,

(a) οὐ γὰρ ἔμ-
 περει μετ' ἑ-
 γαστα κείνῳ
 ἡδὼς τὰ ἐρ-
 γὰ. καὶ δὲ ὅν, ἢ
 πῶς ἐπιστε-
 ται, συνίστη-
 ναι, πῶς ποί-
 οῦνται.

Arist. Ethic.
 l. 10. c. 9.

Jo. Franc. Ri-
 pa, tract. de
 peste. c. 7. sect.
 17.

Arist. l. 8. Phyl.
 c. 3. t. 22. & I de
 ort. & inter.
 c. 3. t. 59.

plus valet umbra experti senis, quam eloquentia juvenis:
 And those Philosophers, who would, upon certain preju-
 dicat opinions, and pretences of reason, determine of Me-
 dicinal cases, are exploded even by *Galen*: nothing is firm
 in *Physick*, but what is confirmed by an happy experience:
 and tis an imbecillity of judgment (saith the great *Stagi-*
rite) to desert experience, and adhere to reason. If Hel-
 mont

mont was neither conversant in the Experiments of others, nor did himself experiment the inconveniences of Phlebotomy, what doth his Assertion or Negation signifie in the case? Besides, 'tis but a single testimony against the Experiments of judicious men in all Ages and Countries. As for his Reason, 'tis most infirm. We must not adde imbecillity to imbecillity: even this is notoriously false in Physick; for, by the same reason, we should not reduce them to a slender diet, no nor so much as sweat them; for after much sweating, every man feels himself weaker for the present; the same may be said of vomits and Emeto-cathartics (so much commended by my Adversary) that, during their operation, they add to the imbecillity and sickness of the Patient: upon this reason, none might scarifie a Gangrene, cut of the sphacelated part, or make use of several vexatious operations in chirurgery. Besides, who would not allow us to create him a little trouble or weakness, (easie to be repaired) thereby to recover him from a greater evil? there are some times when the lesser of evils becomes eligible, and puts on the qualification of being Good: there are some times when we are directed to cure one distemper by introducing another. But to proceed; I do deny that Nature is debilitated by bleeding in diseases, if the rules of our Art be observed: for, we daily see, that after bleeding, Nature doth with more ease and speed discharge her self of the disease; and usually thereupon ensues signs of concoction in the urine, a propensity to sweat, and an inclination to solubility of body, and a more strong pulse: which, as they are our daily observation, so they do demonstrate, that Nature is not weakened thereby. Heretofore it was usual, after consideration of all due circumstances, to let the sick bleed, even till he swooned away: and that with very good success, in those Fevers called πυρετοι. "Sub quo casu Hippocrates atque Galenus veniti non sunt, donec animus deficeret, semel detrachere sanguinem. Quam ipsi rem ratione & experientia ducti tentaverunt. Profusa namque hac inanitione pri-

Steph. Roderic.
Castrenf. quæ
ex quib. l. 4.
c. 7, 8.

Fodoc. Romm
us de curand
febr. contin
c. 3.

mun

With this opi-
 nion of J.
 Lommius, doth
 Ciresius agree,
 de usu Phlebo-
 tom. 6.4.

Galen. de sang.
 mist. c. 14.

^a Ciresius de
 usu Phlebotom.
 c. 5. Rolinc.
 meth. medic.
 spec. c. 4. sect. 2.
 c. 11.
^b Rolinc. ubi
 supra.

^c *num homo in contrarium agitur statim, celerrime ex de-
 fectu animi refrigeratus: post autem alvus subinde pro-
 rumpit, vel bilis ubertim evenitur, vel certe copiosis su-
 doribus corpus perfunditur, atque hinc alios protinus con-
 tingit convalescere; alios plurimum juvari.* This they
 practiced in the beginning of such Fevers, and the pra-
 ctice did so far ennoble Galen, that 'twas proverbially
 said of him, that *He Stabbed Fevers*. He relates of him-
 self, that he took away at once from a Patient *six pound*
of blood, and presently put an end to the Fever, the party
 not finding any diminution of his natural strength there-
 upon. But this kind of *excessive Phlebotomy* hath been long
 discontinued by Physicians, not that they could absolute-
 ly condemn it, but out of *cautiousness*, lest the ill success
 afterwards should be imputed unto them: yet some
Countrey-surgeons do still continue it. I knew one in
Warwickshire, who would, in the beginning of any Fever,
 bleed the Patient thirty or forty ounces, or more, in case
 he did not sanit: and, really, with great success in *rustick*
bodies. A Captain in the *Parliament-Army* assured me,
 that when the *spotted fever* was in the Camp, their Chi-
 rurgeon did, in the beginning of the distemper, bleed
 them till they fainted; then put them to bed, giving
 them a good Cordial, so they sweat, and recovered pre-
 sently. He himself was served so; the *Chirurgion* bled
 him in the open field, the blood fell on the ground, to
 the quantity (as he guessed) of a quart, when a *Lipo-*
thimy approached, he put him to bed, and giving him
 a Cordial, he fell into a sweat, and was recovered per-
 fectly in very few dayes. There is no doubt but the pra-
 ctice was justifiable in men of a convenient habit of body to
 bear it, and where neither the climate, (which ^a often-
 times is particularly repugnant to large Phlebotomy) nor
idiosyncrasie, (which ^b sometimes happens) or evil diet
 preceeding, or the particular malignity of the venenate dis-
 ease, nor the prejudicate opinion of the people do contra-
 indicate. It hath authority from Hippocrates, Galen, Avi-
 cenna,

venæ, and many others : *Nature* doth seem to direct us
 thereunto, by her own excessive evacuations in that kind,
 by which diseases are frequently acted : and no eva-
 cuation is to be accounted immoderate, which is bene-
 ficial. By this, and expurgation, even to *Lipothymy*, in
 the first beginning of several diseases, men were cured
 presently, nor did the maladies proceed to those times
 which in the usual method they make their progress
 through. In my *Exercitationes* against Dr. Sydenham
 (as yet unfinished) I have entreated largely of the
 several methods of curing, which I shall not now tran-
 scribe. As for that way of bleeding which is now ge-
 nerally in use (though practised with a great latitude
 in several Countries, and by several Physicians in the
 same Countrey) it is most manifest that if due circum-
 stances be regarded, and all other medicaments dexte-
 rously administred, it is so far from debilitating *Nature*,
 that it adds to its strength, mitigateth the present
 symptoms, prevents the violence of the future, and con-
 cocteth the disease apparently. I will not undertake to
 justify the demeanour of each particular Physician, any
 more than I will answer for their intellectuals and skill
 in Physick : It is not the reading of *Sennertus* and *Ri-
 verius*, with a little knowledge of the new discoveries
 in Anatomy, and a few Canting terms about *Fermen-
 tation*, texture of bodies, or such like knick-knacks and
Conundrums of the novel Philosophers which accomplish
 a man for practice : These men will never come to be
 ranked with *Vallesius*, *Mercatus*, *Fernelius*, *Duretus*,
Rondeletius, *Massarius*, *Septalius*, *Claudinus*, *Crato*,
 or *Rulandus*. If Experience be our Guide, let us in-
 form our selves by the Histories of such as they
 have given us of Epidemical and pestilential diseases,
 and of particular cases, as also the cures, and follow-
 ing them let us come to practise, and, not deserting
 our own reason, let us be cautioned by them : These
 others for want of judgment to consider each circum-

D

stance

Dilect. Lusitan.
 de vena se-
 ctione cap.
 14. Artic. 1.

G. Fletcher's
History of
Ruffs, c. 28.
p. 279.

stance cannot make an Experiment, or relate it: whilst they extenuate the credit of the ancient and modern Physicians that are not Innovators, (though more observing and experimental than themselves) they do it only to excuse their ignorance in that kind of Learning, and whatever they have of the Lord Bacon, they have this of the Russe in them, that they neither believe any thing that another man speaketh, nor speak any thing themselves worthy to be believed. For such as these, or any else that do not practise Phlebotomy according to the rules of Art, I cannot make any Apology: nor do I think that their errors ought to extend so far as to disparage all Physicians who demean themselves prudently and discretely: Notwithstanding all our care, some Patients will dye; no Physician can secure all men from what their frail condition hath subjected them unto: If our Method and Medicaments be such as the general rules of Medicine, and an Experience generally happy do warrant, 'tis as much as can be expected from us; and the Imperial Laws allow of this defence, though they punish the immethodical and novel Experimentators, and the Ignorant. *Sicut Medico imputari eventus mortalitatis non debet, ita quod per imperitiam commisit, imputari ei debet: pretextu enim humane fragilitatis delictum decipientis in periculo hominis innoxium esse non debet.*

R. Zacchias
Qu. Medico-
legal: l. 9.
consil. 40.

Vide I. Franc.
Ripio tract.
de peste, c. 7.
§. 64, 65, 78,
104.

Valler. Meth.
Med. l. 2. c. 3.

Vide Riolan.
de circulat.
Sanguin. c. xx.
Vallis. meth.
medend. l. 4.
c. 2.

To conclude this Argument, I say, that although it often happens that diseases are cured by sole Phlebotomy: *Evenit ut sapiens missio sanguinis sola curationem perficiat*——*Missio sanguine saepe sponte natura expurgatur corpus alui profluvio, vomitu, aut sudore succedente*——Yet no wise Artist will rely upon that alone, but with the addition of other auxiliary medicaments: Herein Spain and France are pretty well agreed: And as no wise man will undertake to cure by bleeding alone; so it is most foolishly done of our Helmontian to demand, or expect it, as he doth here.

I come now to his fifth Argument.

“ The means to let out *bad blood* without re- Pag. 105, 106.
 moving the *efficient* cause thereof, is no *direct method*
 of healing.

“ Now *Phlebotomy* lets out *bad blood* without re-
 moving the *efficient* cause thereof. Ergo, *Phlebotomy*
 is no *direct Method* of healing.

“ The *Major* is proved thus: Whatsoever suffers
 the cause to remain, can never remove the effect:
 For *manente causa manet effectus*.

“ Now *Phlebotomy* suffers the cause to remain, Ergo,
 it can never remove the effect.

“ The *Minor* is made good by frequent experience :
 “ If the cause of bad blood were cut off, the Feaver or
 “ *scorbute* depending (according to Dr. *Willis*) upon
 “ the degeneration, *Sal* and *Sulph.* therein, would
 “ quickly cease: but we plainly see the contrary; for
 “ after the veins are much depleted, the disease be-
 “ comes more truculent, and oftentimes mortal; which
 “ could never be if this depraved blood were any other
 “ than a product or an effect of an essential morbidick
 “ cause. The same agent which in sanity sanguifies
 “ regularly without any considerable defection, in sick-
 “ nels becomes exorbitant, sending out a vitious juyce
 “ into all parts: be it good or bad, it still springs from
 “ a root, which continually feeds the branches: so that
 “ it cannot be other than great folly and wrong to the
 “ Patient, to let out that juyce, though it seem never
 “ so corrupt, when another of the like condition must
 “ needs enter into its place, derived from the shop the
 “ *duumvirate*, where it first receives a previous rudi-
 “ ment, which ought in all reason rather to be reform-
 “ ed, than to give vent to those easily evanid particles
 “ inseparably joyned with this ruddy liquor, how ill so-
 “ ever represented. If all contained in the reins

He should
rather have
regarded the
second then
first digesti-
on.

(supposed to be corrupt), were discharged, yet as long as the *ferments* principally of the *first* and *sixth* digestion deviate from their right scope, there would in a short space be a succedaneous repletion of a matter equally contemptible, yea worse, in respect of an enervation of *strength*, than before.

This *Argument*, though our *Helmontian* rely so much upon it, is a pure *Paralogisme*.

First, He supposeth that we use *Phlebotomy* in all diseases, as a direct method of healing: which is not true, except in some maladies, as *Apoplexies*, *Squinancies*, *Hæmorrhagies* or great eruptions of blood, some *Atrophies*, and sometimes in *Feavers*: in which 'tis frequent with us, to rely solely or principally upon *Phlebotomy*: yet even here we would think it very improper to admit of our *Phlebotomy* to be stiled our *Direct Method of curing*, because it is but a part of our *Method*, which will include, if not some other prescriptions, yet at least *Hyet*. In many cases we use *Phlebotomy* as one part of our *Method*, but not as the principal: as when we use it antecedently to other remedies *Pharmaceutical* and *dietetical*, to prepare way for, or facilitate their happy operation. I am not now to write *Institutions in Physick* for the documentising of this Disciple of my Lord *Bacon*, 'tis enough that he may learn any where almost (as in *Vallesius*, *Mercatus*, *Claudinus*, and *Plempius*) that we propose more than one scope to our selves in *Blood-letting*; neither is it ever (except in diseases arising from a partial or total *Plethora*) our direct method of healing: If it be but a part and necessary or useful part thereof, we are sufficiently justified. Thus his *Major* is enervated: for if he would have opposed the *modern practise*, he ought to have urged it thus.

The means used to let out bad blood without removing the efficient cause thereof, is no direct Method.

Method of healing, nor an useful or necessary part thereof.

This is manifestly false, as I shall shew anon. As to his Minor, That Phlebotomy lets out bad blood without removing the efficient cause thereof. This would the Ancients deny, who bled their Patients in many cases until they swooned or fainted, with great success: and we must say it is not absolutely true, there being no Practitioner (I believe) but hath seen some cases in which sole Phlebotomy hath effected the cure: he may see many Instances of this in Botallus, and that in diseases where the body was undoubtedly cacochymical: I have seen Agues tertian and anomalous perfectly cured with once bleeding in women with child: and in children I have seen some Atrophies so cured, that the principal cause of their recovery was to be attributed to their Bleeding: the like I have observed in several Chronical diseases, even in inveterate quartanes: as also others have done: nor is there any thing more common almost in our Cases, than the relation of several diseases absolutely cured by single Phlebotomy; which I shall not transcribe here, but in my large discourse of Phlebotomy (in Latine) I intend to represent all such cases at large, with their circumstances, and the History of Phlebotomy with all that variety of success, which judicious Practitioners relate of it in several diseases, and persons. I add now, that No man can be an accomplished practitioner who is not versed in the History of Diseases, and particular cures: for the general rules and directions make no more a Physician, than such a knowledge in Law would do a Lawyer; the res judicata import more with us than they do in Law cases; and as Reports of the Judges in special cases must be known by a compleat Lawyer, so must our Book-cases be our presidents, and regulate our practise. *Duobus enim tanquam cruribus innititur Medicina, neque solis theoreticis rationibus contenta, in-*

super Bruno Seiden-
lium de morbis
incurabit.
p. 57.

*Super etiam practicas experientias particularium requirit,
& indefessam ad singulos casus intentionem.*

Thus is his *Minor* false, as was his other Proposition: and it should have run thus. **But Phlebotomy lets out the bad blood Without removing the efficient cause thereof, or conducing thereunto.**

But he proceeds to defend the *Minor* thus. *If the Cause of bad blood were removed, then would the effect cease: but oftentimes we see that notwithstanding such a depletion the disease continues, and if it be not mortal, yet it becomes more truculent.* Here he commits the same error that before, expecting a greater effect from Phlebotomy than we propose generally to our selves in it: we do it sometimes for revulsion of the matter flowing to any part, as in some Pleurisies, Squinancies, the Colick Bilious, and Rheumatismes, &c. wherein we never rely solely upon bleeding, and though oftentimes the effect transcend our expectation, yet do we not presume upon it. Sometimes we let blood for prevention of future diseases, as in great contusions and wounds: Sometimes we let blood only to prepare way for future Pharmacy, *“ Ita plerumque in febribus mittitur sanguis, qui non superat naturalem mensuram, neque simpliciter, neque in hoc homine, sed quia nisi mittatur, ob febrilem calorem, qui adest, & succorum putrescentium missionem, corrumpetur, ac fortasse malignè; & cutis rarefactioni, & ventilationi, & vasorum relaxationi ad futuram expurgationem necessaria, impedimento esset. Itaque mittitur, non quia multa subest copia, sed quia ea quæ subest, tunc est inutilis, & noxia, ac proinde, facultate ferente deponenda, etsi causa morbi non inclinet ad ideam sanguinis, modo non ab ea plurimum evariet, i. e.* Thus in fevers we usually let blood, not that the blood abounds above its due proportion, either in general, or in reference to this or that individual; but because the blood which flows in the veins is infected with a feavourish heat,

Valles. meth.
medend. l. 2.
c. 3.

heat, and would be corrupted *thereupon*, and by reason of the *intermixed humours* now inclined to *putrefaction*, and that perhaps joyned with *malignity*, for the prevention thereof, and least that *plenitude* and *depravation* of the Blood should hinder that *transpiration* in the habit of the body, *ventilation* of the blood, and *laxity* in the vessels, which is *requisite* for the *subsequent purge*, do we use *Phlebotomy*: not imagining that there is any *superfluous abundance* of blood, but that there is then in the body *some* that may well be *spared*, and which, *if the Patient hath strength to bear it*, may with *prudence* be let out to prevent so great dangers as are *imminent*, and to secure unto us the good effect of the subsequent *Physick*. And if the disease do sometimes encrease upon *Phlebotomy*, it behoveth *wise persons* to distinguish whether those *symptomes* happen *by reason of bleeding*, or only *succeed it in course*, the disease being in its *increment*: for this makes a *great difference* in the case: as also whether amidst those *symptomes* (which are *in due course* most violent in the *progress* and *state* of the disease; whereas we bleed *usually* in the *beginning* only) there be not some that yield signs of *concoction* and *melioration*, which if they do, as we may justly attribute those *hopeful consequences* in part to *Phlebotomy*, so we need not be amazed at the *present truculency* of the disease; which affrights none but the *ignorant*: If notwithstanding all our care, and *due administration* of *Medicaments according to Art*, the Patient do dye, yet is neither *Phlebotomy* nor the other *Physick* to be blamed, but we ought rather to reflect upon *Physick*, that 'tis a *conjectural skill* in the most knowing men, and that we are not as *Gods* to inspect into the *bowels* and secret causes of diseases, that besides the *special judgment* of *God* upon *particular persons*, all diseases are not curable in *all individuals*, either by reason of the variety of distempers complicated, which interfere with and

contra-

contra-indicate one to the other, or for some *unknown* idiosyncrasy, or other *intervening cause* which defeats our *Methods*, as well as it disappoints the *Arcanum* of *Pepper-drops*. I must here take an occasion to remind this *Helmontian*, that he doth ill to disparage *Phlebotomy*, by reason that after it there may follow some *truculent Symptoms*, and yet to reject that *imputation* where his *Dietetical* rules are in dispute. “ When he gives his *vinous* and *spirituous liquors* in *Feavers* (a practise not peculiar to the *Helmontians*, but allowed, with regard to due circumstances, by *Hippocrates* not only in *diaries* but *acute-feavers*: so *Galen* would have told this *Ignoramus*) “ if any *seemingly frightful* Symptoms appear, as *extraordinary heat*, an *inquietude*, a little *raving*, a *swerving from right reason*, the Patient must not be startled in a *vulgar manner*, but be satisfied that these are but the effects or fruits of an *Hormetick motion* in the *Spirits* excited and increased by good liquors, easily united with them for the routing and putting to flight every way whatsoever doth disturb its vital government.— Though *Hippocrates* say it is good in all diseases, that the Patient retain his senses; though he reckon *inquietude* and *restlessness* in the sick amongst *evil signs*, yet our *Helmontian* dissents from him whatever time of the disease it be, and whatsoever other circumstances attend thereon: “ For oftentimes *madness*, *deviation from the right understanding*, a *Lethargical* or *sleepy disposition* suddenly break forth. *Nihil est quod tam magnifice prodest quod non aliquo ex modo obest*. “ What matters it, if the heat be magnified (besides the main purpose) to some small trouble, if ten times greater benefit accrue to the sick. It is impossible any Physician should perform his duty as he ought, if he boggle at the *foppery of heat and cold*, *meerly momentary and transient*, often deluding our senses. Surely he that is thus negligent of the *Animal faculty* in its principal

P. 168, 169.
Vosses. in Hip-
pocr. de victu
in morb.
anot. l. 3.

P. 169.

principal operations, may bear with a pitiful Galenist for not regarding much the *loco-motive strength*, whilst he is as solicitous as any *Helmontian* to support the *vitals*: and let any one judge which is most likely to impair the *vital faculty*, a little *blood-letting* duly administered, or such an increase of the *feavourish heat*, *restlessness*, *deliriums*, *phrensies*, *lethargies*, as our *Author* here despiseth.

I must not yet dismiss him: not that I intend to laugh at his *six-fold digestion* (he might as well make a *dosen of digestions*) but it is necessary that I tell him that the *production of good or evil blood* doth alwayes depend upon *one root that feeds the branches*: for 'tis possible that the *stomack*, and *pancreatick*, or *bilious* mixtures in the *guts* may not be *faultless*, and yet the *blood of the Patient* either not *vitiated*, the errors of the *first concoction* being amended by the *primigenial sanguifying Blood* (for 'tis the *Blood in the vessels* which *principally sanguifies*) or if it be *depraved*, yet not so as to generate any disease, or *abbreviate the life*: for *cacochymical* persons with a little can live more long, and more free from diseases than those of a *purser and more generous blood*: Nor is it less true that oftentimes it happens that the *blood* is infected with *recrementitious*, *heterogeneous* and *noxious* mixtures from obstruction of the pores, or other *occasional causes*, wherein the *stomack* and *vitals* (otherwise sound and *vegete*) are only oppressed and disordered by accident, some of those *impure humours* being discharged upon them: and in these cases repeated *Phlebotomy* alone may cure: If the credit of *Botallus* will not satisfy him herein, let him believe his beloved *Hippocrates*, a man who did *extraordinarily practise blood-letting*, so as that the *French* do impatronise him to their *Phlebotomy*; he tells us this story. "A certain man amongst the *Oeniada* was sick when he was fasting, he felt as it were a great suction in his stomach, and a vio-

Ballonius Epidem. & ephemerid. l. I. p. 101.

Vide Riolan. de circulat. sang. c. xx.

Hippocrat. Epidem. l. 5. c. 11. 6.

lent pain: and after he had eaten any meat, as it digested, his pains returned, He grew very tabid, and wasted away in his body; his food yielding him no sustenance, but what he took came away in ill-concocted and adust stools. But when he had newly taken any sustenance, at that instant he felt none of that vexatious pain and suction: He took for it all manner of Physick, both emeretics and cathartics; but without any alleviation. But being let blood alternately in each arm (or hand) till he had none left in his body [that was vitious] he amended upon it, and was perfectly cured.—

ολεσονται
αυτο
επι μερει εν
προν την χει-
ρα εως εαυτου
αγειντο, επειτα
ωφελισθη, ο
απολαυσθη το
κακο.
See Anton. Bo-
nivenius his
medicinal
observat.
c. 44.

Read but that case you that are so timorous, with the Comment of Van der Linden in his *Selecta Medica* c. xiii. and tell me if upon Phlebotomy as ill blood alwayes succeed as is let out. I could add more parallel stories: But to demonstrate unto this Pyrotechnist that single Phlebotomy will amend and enrich the mass of Blood, I propose this case, An ancient Gentlewoman of a very strong and corpulent habit of body, but frequently troubled with hysterical and hypochondriacal vapours, was taken with a violent catarrh upon her stomach, together with great pains in her right and left hypochondria, as if the liver and spleen had been tumified: sometimes she complained of an insupportable acidity in her stomach, and sometimes a saline humour molested her: Sometimes she fell into cold clammy sweats, sometimes her sweats were so hot that she complained as if her skin were burnt: and even when her stomach felt any alleviation, she complained of a burning fire as it were in her bowels near and in the region of her liver: a perpetual sputation did follow her. I being sent for, after several Medicaments prescribed methodically, but with little or no alleviation, I proposed earnestly that she should be let blood, notwithstanding she were above sixty years old: I took away eight ounces or more: she found immediate alleviation: there seeming no default in the blood or serum, I burned the blood in an arch'd fire, it came to ignition, but flamed

not

not at all: but crackled like Bay-salt, and after some while a sudden eruption of ventosity made such a noise as equalled the cracking of a Chesnut in the fire: she took a stomach-powder of Ivory, Pearl, Crabs-eyes, &c. and was pretty well for three or four dayes, but upon a small fright relapsed: I bled her again as before, and in that short time (in which she had taken very little sustenance; but behold this blood (which looked no better than the other) did burn with a vivid and lasting flame as well as any I ever tryed in my life, and without any sign of flatulency: she recovered presently after with some further Medicaments, but not so as to be perfectly well at stomach of a long time. I doubt not but if others would try that way of burning blood, they would soon be convinced that Phlebotomy makes a great alteration therein.

But I proceed to his other Argument.

This is taken out of *Van Helmont*, whose *Latine* p.107,108 words I shall not transcribe now, but only the *English*.

“ Let them make it appear if this do not imply a contradiction, that a *Feaver* hath the property to pollute the blood, and that this property can be taken away a posteriori, by a posterous manner, to wit, by withdrawing what is putrified. For if first the fouler blood be let out, they open a vein again: all this while they overthrow and confound the strength, and so thereby wholly disappoint a *Crisis*. But suppose sometimes a fresh ruddy blood run out, they presently cry as cock-sure, that a whole troop of diseases is cut off at the first dash, as if the resting place of the Feaver did only extend from the heart to the bending of the arm, and the good blood did take up its abode about the liver.

Ballonius Epis-
dem. l. 2. p. 191

Ballonius Epis-
dem. l. 2. p. 192

Bollon. Epid.
l. 2. p. 167.

Deiuss o Castro
de febre ma-
lig. puncticul.
p. 90.

Simon Pauli
digress. de
febr. malign.
5. 12: 14.

This Argument proceeds upon a most gross falsehood in that part of it, where we are supposed to place such a value upon the colour of the blood as by the goodness or ruddiness thereof we should esteem our selves as cock-sure that a whole troop of diseases is cut off at the first dash: whereas no intelligent Physician ever thought so: for we do say that the blood of all men is not alike, neither as to colour nor consistence naturally: and therefore in diseases we do not expect to see such, nor intend to make any alteration to such a degree as transcends the natural estate of the body: for 'tis our business to preserve each man his natural habit, be it bilious, melancholy, or phlegmatick. We do also say that in diseases the blood may be corrupted in its substance and vitiated, and yet the colour amended, or not altered. *Sape ad speciem & visum purus est sanguis, qui alioqui in sanitate malus est: ut contra impurus cernitur specie, qui non ita in sanitate malus est.*— And Jacob. Thevart his Scholiast doth observe, that several times in *venoxphobis* sanguis laudabilis ipsa sectione apparet, & qualitatibus alienis præditus est, est enim acriusculus & biliosus nimis. Nay we are so far indefinitely from pronouncing a cure upon the ruddy colour of the blood, that in malignant Feavers we make a quite contrary prognostick. *Pessimum signum est [in febre maligna puncticulari] & timoris plenum, cum sanguis vena scissa extrahitur, si purus, rubicundus, & inculpatus educatur, venenositatem superare indicium est, aut putredinem in penitioribus cordis latitare.* In meipso olim observarem; nam ter per hanc febrem misso sanguine, nulla prorsus nota putredinis apparebat, aliis signis immani ferocitate sevientibus. The same is asserted and illustrated by fatal instances in Simon Pauli, which it would be too long to transcribe here. Having demonstrated unto him these errors, I say further that we do not hold the blood to be putrified in all Feavers, as in Diaries, nor (many of us) in intermit-

tent:

tent: not to mention others: and in those Feavers wherein 'tis said the Blood doth putrifie, We do let blood often to prevent putrefaction, and not alwayes to cure it by Phlebotomy: and we do it in order to cure the putrefaction, we do not pretend to emit all the putrified blood thereby, but only to alleviate nature of a part thereof, that so she may better overcome the rest; especially being assisted by other Medicaments. So that the whole assertion is false, if it import that any intelligent Physician designs to cure a putrid Feaver solely, and directly by letting out the putrid blood by repeated venæ section. I will not deny but some in France and Spain have gone about to do it, but the practise is generally condemned by Physicians of the best repute, and therefore ought no more to be charged on us, especially in England, then the miscarriages of any bold Experimentor, or Baconical practitioner at London upon the Colledge of Physicians. This insolent Disciple of my Lord Bacon understands not the rudiments of our Physick, nor knows what we aim at in the use of Phlebotomy, there being sundry occasions why we use it, and sundry effects that we expect from it. Neither is he less deceived in saying that Phlebotomy (duly administered) overthrowes the strength of the Patient (I mean that strength which is necessary to the concoction of the disease) and so thereby wholly disappoints the Crisis. For it is manifest that by those profuse Phlebotomies of the Ancients the Crises were accelerated: and in ours promoted. This is not only manifest out of Hippocrates and Galen, but confirmed unto us by the certain experience of Forrestus, and those learned Florentine Physicians who composed the Academy there for the renewing of the Hippocratical and Galenical Method in opposition to the most prevalent Avicennists. "Nos igitur Galeno fisci (quoniam sic conducit magis, dum vires ferant) sanguinem misimus plurimum, nam bilibre pondus & trilibre in acutis febribus."

Valles. meth.
medend. l. 4.
c. 2.
Castellus de
abusu venæ-
section. p. 60.

Forrest. de fe-
bre l. 12. in
Scholio,

Novæ Acad.
Florentina
opuscula
adv. Avicenn.
p. 43, & p. 55.

Ibid. p. 99.

febris : aut magnis aliis morbis superavimus : atque
 id non modo impune, sed & tanta agrorum tolerantia,
 ut nil supra eligi potuerit. — Quam rem abunde
 nobiscum experientia nosti (ut nos quoque aliquan-
 tisper experientiam ostentemus) ut qui præter cætera,
 quorum Paulo ante mentio fuit, & venæ quoque sectione
 abunde usi sumus, atque id citra discrimen : quin et
 exactam illam vivendi formulam, veteribus quidem fa-
 miliorem, neotericis vero ne nomine quidem ipso notam,
 instituimus. Quo factum est, ut jam crises multæ ap-
 pareant, ac velut novus naturæ ordo, agris felicissime
 faveat : Cum antehac vel pharmacis agitata, vel intem-
 pestivo victu impedita, nullas ostenderet, aut admodum
 raras, easque non nisi in rusticis atque infima plebe, qui
 nec pharmacorum multitudine, neque ciborum aut potio-
 num, fatigari, aut impediri quirent. I have more
 willingly cited this passage because the renown of that
 Academy was such that it gave a check to the grandieur
 and prevalence of the Arabian Method, and the truth
 of what they say cannot be questioned by any that
 knows the persons, and the revolution they brought
 about in Europe : and hence we may learn the reason of
 that difference which seems frequently to occur be-
 twixt the ancient diseases and their critical motions and
 terminations, and what we generally find : It ariseth
 not from any such great change in the nature and types
 of maladies, as some have ignorantly writ of late : nor
 as this Bacon-face talks, because we reiterate moderate
 Phlebotomy : but because we do not follow at all the
 Method of Hippocrates and Galen in the curing of dis-
 eases : However we pass for Galenists and Hippocrati-
 cal Physicians, yet in truth we are not such : our practise
 is made up most out of the Arabian Method, and Me-
 dicaments, and is a mixture of the Grecian and Sarra-
 cenical Physick ; together with those accessions which
 improved Chymistry hath introduced : and since we
 disturb Nature with our vomits and minoratives in the
 beginning,

P. Castellus de
 abusu Phle-
 botom. p. 6, 7.

beginning, and neither bleed, dyet or otherwise Physick our Patients according to the *ancient prescriptions*, do we wonder to see another face and *issue of maladies* than was *heretofore*? Or, doth not he rather deserve to be wonder'd at, that should expect in so *different circumstances* for *resembling effects*? I believe our *Helmontian* with his *Emeto-cathartis*, and *exquisite Arcana* (so far transcending all the *shop-medicaments*, or received *Chymical preparations*) doth see as few *Crises* as any *Phlebotomist*: and may not I then retort upon him, that he by his *practise* wholly *disappoints a Crisis*? Nay, doth not he tell us, that in *his way* there will be no need to stand gaping for a crisis, *sith* that may be anticipated, and all secured before that time, if there be a regular procession: And may not the present *Galenists* justify themselves in the same manner, since they can better warrant their procession and *Medicaments*; by a longer succession of *Experiments* happily made by *judicious men*, then this ignorant *Helmontian Innovator*? p. 101.

Another Argument of his is this.

“ If it be so that *striking a vein* often in a long tedious disease, is a preparatory for a sharp Fever, as p. 110.
 “ Doctor *Willis* and I both herein jump right in our
 “ observation: then am I certain that *Phlebotomy* repeated in an acute sickness, is a door set open and an
 “ in-let for a long infirmity, so that this mode of defalcating the vigour of the *Spirits* doth for the most
 “ part (as I have strictly heeded many years) disarm
 “ and plunder Nature in such sort that it cannot resist
 “ the Assaults of every petty infirmity, witness those
 “ multitudes who after sharp conflicts fall either into
 “ relapses, or Agues, Scorbute, Dropsies, Consumptions, Atrophy, Jaundise, Asthmaes, &c. which might
 “ be easily prevented, if a mature regular course were
 “ taken.

‘ taken to give convenient *Emeto-cathartics, Analep-
tics, Diaphoretics*, which safely and speedily cleanse
‘ the Stomach, keep up the strength and breath, that
‘ we need not fear any mischief from this late invention,
‘ Redundance of *Sulphur*, or Salt in the blood, no
‘ more than *choler, phlegm*, and *melancholy* in the An-
‘ cients.

p. 108.

‘ ‘ The observation of Doctor *Willis* is this: *de febr.*
‘ p. 75. *Præ cæteris vero observatione constat, quod*
‘ *crebra sanguinis missio Homines febriliter aptiores reddat.*
‘ *i. e.* Now above all, it is certainly known according
‘ to observation, that often bleeding makes men more
‘ apt to fall into a Feaver: Again he follows it close.
‘ *Hinc fit ut qui crebro mittunt sanguinem, non tantum*
‘ *in febres proclives sint, verum etiam pinguescere sole-*
‘ *ant propter cruorem succo Sulphureo plus impregnatum:*
‘ *i. e.* Hence it comes to pass, that they who often
‘ breathe a vein, are not only prone to fall into Feavers,
‘ but also are wont to grow fat by reason the blood is
‘ full of Sulphur. In another place to this purpose he
‘ drives it home. *Qui sanguinem habent sole volati-*
‘ *lisato bene saturatum ij sunt minus febribus obnoxii:*
‘ *hinc etiam qui sæpius sanguinem emittunt ad febres*
‘ *aptiores sunt.* They whose blood abounds with vola-
‘ tile Salt, are not subject unto Feavers: for this cause,
‘ they that use *Phlebotomy* often are more liable to Fea-
‘ vers.

p. 109.

G. T. under-
stands not
what a *proca-
tarctick* cause
is: it is here
a *causa æm-
peruam.*

‘ ‘ From hence — *G. T.* forms this Epilogisme.
‘ Well then the Doctor and I agree thus far in the
‘ main, that frequent bleeding procures Feavers;
‘ which is sufficient to back my Assertion, that *Phlebo-*
‘ *tomy* is no good method of healing, sith it is plainly
‘ a *procatarctick* cause of Feavers. For whatsoever
‘ means exhausting the strength (as I can demonstrate
‘ this course doth, more or less, sensibly or insensibly)
‘ inviting or making way for Feavers, instead of pre-
‘ venting of them, is not to be approved of or allowed
in

' in curing the *Scurvey* or other diseases : unless we do,
 ' act like *Tinkers*, some whereof are reported to amend
 ' one hole and make another : for how can it possibly
 ' consist with the honour and credit of a Physician,
 ' *quem creavit Altissimus*, to go about to correct the
 ' blood by often letting it out in a Chronick disease,
 ' and likewise withall to usher in, or as it were to be a
 ' Pander to the introduction of an *Acute feaver*, which
 ' in a short space dissipates that strength which this
 ' *Phlebotomical harbinger* hath in part worsted ?

In this Argument there are so many defaults (which
 are obvious to be seen) that I must recommend again
 to these *Baconical* Philosophers, a *Caution* I have more
 than once given them ; which is to omit in all their
 Discourses those *verbiage* conjunctions, *Causals*
 and *Illatives* : 'Tis meer *pedantry* for them to be tyed
 up by such *particles*, the idle *foppery* of *Grammarians*,
 and *Logicians*, and men of common sense. The Reason,
 if reduced to form, runs thus.

That which inclines unto a Feaver is not a proper re-
 medy in a Feaver.
 But frequent blood-letting inclines to Feavers.
 Ergo.

The Major is false every way, whether it be supposed
 that *Phlebotomy* produce such an effect *per se* and di-
 rectly ; or by accident, and only in some persons, in some
 circumstances. For were it true that *Phlebotomy* did
 directly and wheresoever it is used introduce a Feaver,
 yet it may so happen that a Feaver may be expedient to
 some Patients for the prevention of greater evils, and
 sometiems for the curing of them : and in these cases 'tis
 as much prudence in a Physician to acquiesce in, or run
 the fortuitous hazard of a lesser or less dangerous evil,
 as 'tis for States-men in the Body politic. Nature doth

F

often

often cure one disease by introducing another: and commuting the more dangerous into another of lesser hazard: as any intelligent Physician knows, who understands the *Metaptosis* and *Metastasis* of diseases. I am not obliged to read to these Disciples of my Lord Bacon a course of *Medicine*. There is an *Aphorisme* of Hippocrates to this purpose. *Quia convulsione aut distentione nervorum tenetur, febre superveniente liberatur*. Upon which words Hieremias Thriverius doth thus comment. *Alio modo febris convulsionem tollit ex plenitudine, alio rursus modo distentionem: convulsionem enim curat, quia plenitudinem discutit; distentionem vero quia insigniter universum corpus incalefacit: forte etiam distentio convulsionis genus nescit. Quicquid autem sit, utrique febris confert, ac potissimum diarrhoea, imo & putrida minus periculi affert, quam ipsa distentio*. Frustra ergo consistantur in ea questione Neoterici, an putridam febrem convenit excitare in convulsione ex plenitudine, aut flatulento tumore. Which that it may be lawfully and prudentially done (but not by every fool) is a judged case amongst us: and were it not lawful, the Argument would by a parity of reason extend to several operations in *Chirurgery*. It is the judgment of Celsus long ago, with which I conclude. *Sed est circumspici quoque hominis, & novare interdum, & augere morbum, & febres accendere; quia curationem, ubi id, quod est, non recipit, potest recipere id quod futurum est*.

The Major being thus false in that sense which was most pertinent to his purpose: 'tis most ridiculous in the other: For who will not immediately laugh at him that should thus determine? That which may in some persons, and in some circumstances incline unto a Fever, is never the proper remedy of a Fever? And how can this Bacon-face upbraid us herewith, who doth himself prescribe to his Patients in Feavers the most generous liquors of the subtlest smack, exhibited largely,

Vide Steph.
Roder. Castren:

**Dux ex
Quibus.**

Valles. in
Epidem. l. 4.
p. 448. in hi-
storia Alcippi.
& ibid. p. 401.
in hist. femu.
le emptiis.
Hieremias
Thriverius
Brachelius in
lib 4. Aphor.
57.

Valler. contro-
vers. Medic.
l. 8. c. x.
Hieron. Ru-
bens in C. Cel-
sum. l. 5. sect. 4

C. Celsus de
Medicina l. 3.
c. 9.

largely, without insisting upon the nicety of any danger from heating? and yet his sack and other generous liquors may ingender Feavers, and other distempers in the healthy. In fine, Whoever rejected the use of a thing for the abuse, or condemned peremptorily any cause for accidental inconveniencies following thereon, but such a Dulman as this Helmontian, and his brethren the disciples of my Lord Vernalam.

To the Minor I reply: that for the observations made by this insipid pretender to Pyrotechny, I regard them not at all: he hath not judgment enough to make one. *Ego vero sicuti experientiam multi facio, dummodo commodum expertorem natâ sit: Ita si unicuique qui se expertum dicat temere credidero, ridiculus profecto habear: ut qui & fori circulatores ac loquales vetulas, agrestes quoque sacerdotes in pretio habeam. Nam si queras, omnes uno verbo, quæ proponunt se expertos dicunt.* It is true I have a great reverence for the name of Experience, and the bare mention thereof commands an attention from me: But it hath been the peculiar misfortune of my education, that I have been taught, not rashly to assent: nor to believe every thing that is told me, since there is nothing but may be spoken by some body. I can be so civil, and so curious as to give the Relator an hearing, how mean soever he be, but before I credit him, I must consider whether the thing be possible? and withall (because my knowledge is not the adequate Measure of possibilities in nature) Whether it were Done? If the thing did succeed, I inquire, whether it will constantly, or most commonly follow upon the like causes and circumstances? Or whether it is a rare accident? In the two first cases, the knowledge thereof makes a Physician the better Artist: the latter adds to his general Science of natural Phenomena, but not at all to his Art, except in cases as rare as the Phenomenon related. In Artibus, inquit Galenus, duo sunt præ-

Novæ Acad.
Florent. opus-
cul. p. 21.

Io. Riolan.
in resp. ad
dubia Anato-
mica Barthol.
p. 75.

Ar. Rhet. 1.2.
c. 4.

Ἐπεξαπατητοὶ
εἰσιν, ἑλπί-
ζοντες ὅτι βραδύ-
ως — καὶ εὐπι-
στοί, διὰ τὸ μὴ
πολλὰ δεῖν
παθεῖν. —
ὅτι καὶ εἰδέναι
πάντα δύσκολον,
καὶ διεξιέναι
τὰ.

ceptorum genera, unum eorum quæ perpetuam habent
veritatem: alterum, quæ ut plurimum ita se habent,
& tolerantur: quæ raro fiunt, ibi locum non habent.
At hodie multi sibi placent in scribendis & obtruden-
dis observationibus raris, tanquam novis Artium my-
steriis: sed rara non sunt Artis. I do also consider the
quality of the Relator: the vain-glorious and ambi-
tious are easily deceived, because they passionately desire the
thing should be so, and 'tis for the credit of such Obser-
vators, if it be so: the young are easily imposed upon by
the little experience they have of things, the credulity that
is in them naturally, and the good opinion or hopes they
have of the integrity of others; and because they are
conceited of their own knowledge (though the prospect
of things be narrow) they are prone to opiniatry, and
vehement in their assertions, though too unsettled, and
impatient, (as well as ignorant) to weigh any thing
maturely and with all its requisites. I do not weigh the
greatness and opulency of Relators, but value them as
they are Artists, for such only can judge in their own
Faculties: And when controversies arise the Stagirite
deluded me into an opinion, that the most probable tenet
was that which the most, or the most intelligent did
profess. This Pyrotechnist upon many reasons deserves
not any credit: he writes Books as Mountebanks
paste up Bills, to invite custom: the Medicines he re-
commends are such as by the sale thereof he would
advantage himself: all he publisheth is in a subserviency
to this end; and 'tis not his skill, but his ignorance
that is concealed in his Arcana: all that ever sweet
William or Andrew related upon a Quack-salvers stage
deserves as much of heed and esteem, as what —
G. Thompson talks. I do not ask thy pardon Oh!
most illiterate and dull disciple of my Lord Ve-
rulam, for dissenting from Thee. But I with submis-
sion and deference beg leave for not adhering to Do-
ctor Willis: No man of understanding can condemn
his

his practise : he hath not altered the *Authentick methods*, but given *new* and *plausible reasons* for an *Ancient procedure* : This Character is due unto him, that scarce any man surpassed him in his thoughts, when awake ; and 'tis his peculiar happiness, that his Dreams are pleasant and coherent. Amongst all that have written about *Phlebotomy*, and its abuses, I never met with one that recounted this for one evil consequence thereof, that it inclineth men to Feavers ; I find *P. Castellus* to reckon up twenty five evil accidents which sometimes ensue thereupon : but this is none of them. Nor do I see that it is reconcileable to that effect of *Phlebotomy*, whereby it refrigerates the habit of the body, and the common distempers which follow the Abuse of it, are cold ; If it be true that it inclineth people to be fat, and fat people are neither so hot, nor incident to Feavers, as the lean and bilious (though otherwise more weak) there is reason why my doubts should increase upon me. It might, with some colour, have been said, that excessive *Phlebotomy* did dispose to the *Rheumatisme* and *Gout* ; but not to Feavers ; except by accident, that some persons having contracted a grosser and more sanguine habit of body upon *Phlebotomy*, and (such complexions being most capable of any malignant or pestilential and contagious infection, not by reason of their *phlebotomy*, but from the habit of body, which whether natural or adventitious is lyable to those casualties) falling upon any excess or other occasional cause into the Small-pox, or sanguine feavers, the observation hath been raised into repute. It is a thing I have not seen to happen vulgarly : nor doth any Author, that I know, take much notice of that other effect, how *Phlebotomy* inclineth to fat : I have read in *Joannes Fuchsius* a Bavarian that such a thing hath fallen once, or so, under his observation, in a Lady : and Doctor *Primrose* denies the matter of fact, that *Phlebotomy* will make those that are inclined to be fat, fatter :

Claudius
proposeth
frequent
Phlebotomy
as a remedy
for jaundice.
Venæ sectio
omnino con-
venit ; imo
sunt, qui nihil
magis ad de-
trahendam
corporis mo-
lem valere
existimant,
quem cre-
bram sectio-
nem venæ.
Empiric. ratio-
nal. l. 1. §. 1.
c. 4.

Jo. Fuchsius
Compend.
abus. p. 2. c. 7.
Primros. de
vulgi error.
l. 4. c. 50.

Prosper Alpi-
nus de med.
Egyptiorum,
l. 3. c. 15, 16.

fatter: though persons that are *extenuated* and *emaciated* with sickness may by *bleeding* acquire a greater *corpulency*: And certain it is that in those *Countries* where *Phlebotomy* is most used, there are fewest *fat men*, and *women*: as *Spain*, *France*, and *Italy*, or *Egypt*, in this last region, it is their particular study, and a distinct profession, to make people fat, but 'tis by other courses then *Phlebotomy*. In short, I my self have been let blood above *four score times*, and yet am lean: and so far from being *seavoursibly* inclined, that I never had any except the *Measles* once, and *Small-pox* twice: and twice a *tertian Ague*: and I find no *imbecillity* or *prejudice* in the least that should induce me to repent what I have done, or resolve against it for the future: But we must distinguish upon what is produced by any thing as its cause, and what is only a concomitant thereof: If it *ten thousand times* proves otherwise, we must not impute the growing fat of one Patient to *Phlebotomy* indefinitely, but rather to some alteration the disease (in which it was applyed) hath wrought in his body, to his *Analeptic diet*, and course of life, subsequent thereunto; or to his individual temper. And perhaps it may be not *impertinent* to add here, that as *Distillation* and the burning of the blood of a *Multitude of persons* hath convinced me that there is no such *defflagration of blood*, as that learned Physician imagines, nor any *vital fermentation* in the blood depending upon the *Chymical ingredients* of *Salt*, *sulphur*, and *Spirit*, &c. so neither is the *Blood* of corpulent persons (I never tryed the *Obese*; because they do not bear *Phlebotomy*; except once in a *Youth* lately that was *extream fat*, and in danger of an *Apoplexy*, and it did not burn with so vigorous and lasting a flame as that of many lean men, but by its crackling gave testimonies of much *Salt*: yet the Serum was *insipid*) it is not properly *sanguine*, but *pituitous*.

But

But to resume the discourse: I expected to have seen the *Minor* proved by our *Helmontian*; but although I find that he saith *his observation did jump with that of Doctor Willis*, that *Phlebotomy did incline to Feavers*: Yet my *Reader* may see that in the *first part of the Argument*, as I have urged it in *his own words*, he reckons amongst the *evil consequences* of bleeding none that proceed from an *opulent and sulphurous blood* transcending the *dominion of the spirit* that remains after *Phlebotomy*, but such as argue an *impoverishing of the blood*, or a *cold indisposition*. I will repeat it again, to shew how *justly* I censure his *Logick*, and so dismiss the *Argument*.

If it be so, that striking a vein often in a long and tedious disease, is a preparatory for a sharp Feaver, as we both herein jump right in our observation: then am I certain that *Phlebotomy* repeated in an acute Sickness, is a door set open, and an in-let for a long infirmity, so that this mode of defalcating the vigour of the spirits doth for the most part (as I have strictly heeded many years) disarm and plunder Nature in such sort that it cannot resist the assaults of every petty infirmity, witness those multitudes of relapses, or Agues, Scorbut, Dropsies, Consumptions, Atrophy, Jaundise, Asthmaes, &c.

The proof of the *Minor* here is not only defective: but the mischief is, that Doctor *Willis*, who judiciously
 uleth *Phlebotomy*, commends it in Feavers both in the
 beginning and augment of those that are putrid, (and
 also in *Diaries*) as the principal remedy (in primis
 conducit)

Dr. Willis de
 febr. p. 197.

Dr. Willis de
febr. p. 166.
edit. 1662:

conducit) and speaks in the place cited by our Hel-
montian only of a *customary letting blood in time of*
health: Whereas this Bacon-faced Pyrotechnist, saith
that their *Wits jump in this*, that *often striking a*
vein in a long and tedious disease is a preparatory for a
sharp Feaver: Let any man read the place and see how
he abuseth that excellent Practitioner, whose words
are, *Præ cæteris vero observatione constat quod crebra*
sanguinis missio homines febrī aptiores reddat, quare
dicitur vulgo, quibus sanguis semel detrahatur, eos, nisi
quotannis idem faciant, in febrem proclives esse. I am
sorry he should seem to give a reason for a vulgar error:
for once or twice bleeding doth no more create a Cu-
stom, or dispose Nature to an anniversary commotion in
the blood, than one swallow makes a Summer: But cer-
tain it is, (I speak of our cold Climates, not of those
hotter where sweat and transpiration often prevent
those determinate motions of nature) that such here
as are very much accustomed to bleeding, keep certain
times for it, their bodies will require it at that time,
and, if they refrain it, they will feel an oppression and
dulness, or lassitude, and may fall into a Feaver, but Aches,
Rheumatisme, Gout are more likely, except other acci-
dents concur to produce a Feaver: if the ebullition be
no greater than to produce a Lassitude, 'tis possible
(in some bodies) that the Scurvy, Cacoehymy, Cachexy,
Drop sic, Asthmaes, Cephalalgies may ensue: for the
morbifique ferment, like the scum boyled into the broth;
may mix inseparably with the blood, and vitiate for ever
that great sanguifier with an unexpressible pravity:
But he that thinks 'twill be so in diseases, when the Pa-
tient is phlebotomised, neither understands the motions
of nature, nor the effects of a sound recovery. Instead
of Doctor Willis this illiterate Baconist (who profes-
seth to be so well versed in the way called Galenical)
should have (as he argues) made his recourse to
Avicen and his followers, who are (in many cases)
fearful

fearful of *Phlebotomy*, least it should produce an *ebullition* of *choler*, or *crudity*: which two *inconveniencies* may produce all that—*G. T.* talks of. Thus sometimes *Tertians* have been doubled, nay turned into irrecoverable *continual Feavers*. But all the *cases* relating thereunto concern not an *intelligent Physician*, who understands what is *past*, *present* and *to come*, and knows *when to presume*, *when to fear*. But I intend not to teach these fellows: it were better for the *Nation*, and *them too*, that they were *Cobblers*, or *day-labourers*, than *Practitioners in Physick*: a *Doctoral Diploma*, though purchased, will not sufficiently qualify them for the *profession*; and as little doth the title of *Experimental Philosophers*, and *Verulamians*, avail them.

*Hor. Aug. de
mist. sangu.
l. 4. c. 19.*

The next Argument of his that I come unto, and which is more than *once* inculcated, as if he thought it a *Demonstration*, is this, as I may form it.

“ If it be not *fitting*, nor *useful* to bleed in the *Pest*, which is a *Feaver* *et* *Exor*, it is not *fitting*, nor *useful* to bleed in any *ill-conditioned Feaver* whatsoever.

“ But it is not *fitting*, nor *useful* to bleed in the *Pest*. Ergo.

“ The *Consequence* of the *Major* is thus proved.
“ It is no less *criminal* to suffer the *Blood* to spin out in
“ any *ill-conditioned Feaver* whatsoever, then in that
“ which is so *et* *Exor*. And, Albeit our *Phlebotomists*
“ do extenuate the matter, setting a fair gloss upon it,
“ pretending that in *malignant Feavers* of the inferior
“ clast, *Plethorick* or *Cacochymical* indications do manifestly
“ require their *utmost assistance* before that *in-*
“ considerable *venomely* *occult*: I must, by their fa-
“ vour, be bold to tell them they will never *solidly* and
“ *speedily*

Speedily make a sanation of any great Feaver, or any other disease, till they handle it in some manner like the Plague: for there is *quiddam deleterium*, a certain venosity in most maladies; as I can prove *ex facto*.

p. 81.

The Minor is thus proved. For whosoever at any time, upon what pretence soever of caution, attempts *Phlebotomy* for the cure of the Plague, takes a course rashly to jugulate the Patient, unless some extraordinary redemption happen. Certainly here Doctor Willis (who allows to persons accustomed to bleeding, and in plethorick bodies, the humours being very turgent, though seldome, and with great caution, to bleed) speaks by rote, for had he Anatomised the Pest, investigated the nature of that atrocious stroke, as I have, feeling the smart of it three several times, he would as soon allow of piercing a vein in him who hath taken an intoxicated draught, as at any time in this case, where the Stomach alone is the place from whence the poyson is to be exulated. 'Tis no wonder if the Galenists strait injoyn bleeding, where they find a seeming foulness in the less malignant Feavers, when they dare be tampering with it in the greatest. — The only noted Sluce through which the poysonous matter of all malignant Feavers passes away, is the universal Membrane, the Skin, on which the Stomach hath no small influence, governing this Catholick coat at its pleasure, in so much that no successful sweat or eruption can be expected as long as the Duumvirate lies prostrate under any insulting calamity. Wherefore the Arch-design of the Physician is to cherish, corroborate, and remove all impediments of this eminent part, that it may protrude, explode, or ejaculate from its bosome to the utmost limits, whatsoever is virulent, closely supplanting the fortress of life. Now whether bleeding be any competent Medium to atchieve this, let any one indifferently

p. 25.

'rently versed in the knowledge of the *Pest* be Judge,
 'wherein no honest able *Artist* dare open a vein, be-
 'cause it will attract the *Miasme* inwardly, hindring
 'the *extrinsecall* motion of the *Archæus*, for the expul-
 'sion of what is *mortiferous*.

Before I come to answer particularly to the *Argu-
 ment*, give me leave to animadvert upon some passages
 in this discourse. As to the *Duumvirate*, I do not
 understand whether he be absolutely of *Helmont's*
 mind, or no, making the *Pylorus* of the *Stomach* to be
 the place where the *Soul* is radically seated, and whence
 it displays it self principally in the management of
 the *Oeconomy* of the *body*; joyning the *Spleen* with the
Stomach as an Associate in that *Soveraignty*. There
 is not any thing more foolish than the *dreams* of *Hel-
 mont*; had our *Baconist* any understanding of *humane*
nature, any converse with *modern Writers*, the vanity of
 the *Duumvirate* would have been manifest unto him:
 I advise him to read the *Fundamenta Medica* of the
 excellent *Mæbius*, where he treats of the *Stomach* and
Spleen: where he alledgeth nothing for himself, why
 should I insist on any thing. The general *Archæus* of
 the *Stomach* and that appropriate to each part seem to
 me to import no more, nor to be more intelligible than
 the innate heat of each part, and that other influencing
 each part and disseminated from the *Heart*: If the in-
 nate heat of each part be called a particular ferment, it
 matters not much: I comprehend it as little still:
 How the operations of Nature are performed I know
 not, nor ever shall understand by *Canting terms*, or
Similitudes: That the notion of *Fermentation* is equivo-
 cal, or not to be accommodated to the *Stomach* and its
digestion, but by a certain *Animal heat*, I think *Mæbius*
 hath evinced: and I cannot be satisfied with the reply
 of *Kergerus*: and if the notion of an implanted fer-
 ment and fermentation be suspicious there, where there

*Mæbius fun-
 dam. med. de
 usu ventriculi,
 p. 178.
 Kerger. de
 fer met. §. 3.
 c. 2.*

is the *most* to be alledged for it; I may be pardoned for scrupling to fix it elsewhere; but to be content thus to manage the *Question*, as if it were branched into these *Interrogatories*.

Whether the *Pest* be a *Feaver* *ut* *Scoriv*?

Whether in the *Pest* it be *lawful* and *beneficial* to let blood?

Whether all ill-conditioned great *Feavers*, and most *maladies* have in them a particular *venome*, *deleterium quiddam*, and are to be cured by *Corroboratives*, and *Diaphoreticks*, without *Phlebotomy*?

The distinct solution of these *Questions* will make the answer to his *Argument* very facile: and I will not retrench upon the not-to-be-perceived *Empire* of the *Duumvirate*, nor inquire by *what means* the *stomach* hath such an influence upon the *Skin* as to govern it as it pleaseth.

The *first Question* if I were to determine it out of —G. T. in his *Treatise* of the *Pest*, I would resolve in the *Negative* upon this reason. If the *Pest* be a *Feaver* *ut* *Scoriv*, then is a *Feaver* inseparable from it, and that term ought to be put into its definition. But —G. T. doth not define the *Pest* by a *Feaver*, and grants that the *Pest* in some produceth no *Feaver* at all. Ergo —

G. T. of the
Pest, c. 1. p. 8.

His definition of the *Pest* is this. The *Pest* is a contagious disease, for the most part very acute, rising from a certain peculiar venemous Gas, or subtiler poyson, generated within, or entering into us from without: at the access or bare apprehension of which, the *Archæus* is put into a terror, and forthwith submitting to the aforesaid poyson, invests it with its own substance, delineating therein the perfect *Idea* or image of this special kind of sickness distinct from any other. He that can accommodate this Definition to a *Feaver*, or find any thing of a

Feaver

Feaver in it more than of the Colick, or Dysentery, Diarrhæa, understands more than I; for even these have been Contagious, as well as Epidemical: Perhaps he will reply, that the Pest is alwayes so: But in this, notwithstanding his boasting here he understands the Pest, and (whereas Rondeletius and other Galenists dissected many that died of the Plague) he did anatomise one that deceased of it, yet doth he not know the Nature of it: For the Pest is not alwayes contagious, there being recorded many cases in which the Pest hath seised one person, and extended no further. However if the words Contagious disease do not include a Feaver *κατ' ἐξοχήν*, there is not any mentioned in the Definition: and if they do, then is also the Scabbado, and Leprosie, &c. a Feaver *κατ' ἐξοχήν*, since each of these is a Contagious disease. In sum, He grants that the Pest may invade without a Feaver, in these words. — It produces a manifest Feaver in this man, and in that none at all, or hardly any sensible. — These words do not become a man that Holds the Pest to be a Feaver *κατ' ἐξοχήν*, and carries on the Hypothesis so far as to make all malignant, putrid, Feavers to participate thereof, and bear some resemblance thereof: and (which is pretty) that almost all maladies (either Feavers, or not) fall under the same predication.

But I pass from — G. T. to inquire into the true nature of the Pest according to the most learned and judicious Practitioners that ever attended in it. The most accurate Isbrandus a Diemerbrook relates how many in the Pest at Mymegen (where he was Visitant) had the Pest without any signs of a Feaver: nor was this to be seen only in such as dyed suddenly; but in those that had Botches and Carbuncles, yet went up and down and pursued their business, without being any way feaverish: of which number himself was one. And he with the allegations of many Authors and Histories

Isbrand. a Diemerbrook de pest. l. 1. c. 7. §. 1. p. 18. edit. 1665. Amsterdami. & Zacchian Qu. medico legal. l. 3. tit. 3. Qu. 1. §. 13, 14. G. T. of the Pest. c. 3. p. 42.

Isbr. a Diemerbrook de Peste l. 1. c. xii. So Van der Mye during the siege of Breda, relates causes of such as had the Plague, and yet during the whose time of their Sicknes had no Feaver. Van der Mye de morbis of Bred p. 11, 12.

C. Hofmann.
Antisfernelius
Lemm. 64.

I. Nardius in
Lucrer. l. 6.
p. 527.

Alex. Massar.
de pest. l. 1.
(inter opera)
p. 498. &
Forrest. de
febr. l. 6. obs. x.
Sennert. de
febr. l. 4. c. 1.
Dudith. inter
apost. Schoet.
ep. 52.

Fateor febrem hanc pro putredinis aut distillationis conditione, copia aut incremento, modo majorem, modo minorem existere, quam in nonnullis Synochum, Tertianam continuam, & Febrem quemcunque ardentem incendio & calore aquasse, non ego tantum, sed & Collegæ mei, Doctores hujus urbis Medici clarissimi, ægris in publico Nosocomio decumbentibus operam præstantes observarunt. Minderer. de pestilentia. c. 6.

of *Plagues* justifies his *Definition*, in which he forbears to make the *Pest* to be a *Feaver*. In like manner *Casper Hofman* living in *Norimberg*, when the Town was besieged and the *Plague* raging, had the *Pest* himself with a *Carbuncle* on his shoulder, *sed sine alio Symptomate*, and taking due care of himself, without confining himself to his bed or chamber, he recovered: He instances in others that escaped, in the same condition. With these agreeth *Nardius*, who was chief Director in the *Plague* at *Florence* in 1630. And the most learned *Massarius* who was Physician at *Vicenza* when the *Plague* reigned there in 1577. Out of all which it is manifest that the *Pest* is not a *Feaver* *ver' & exat*, since there may be a *Pest* in which the sick party hath not any *Symptome* of a *Feaver*: 'Tis true that many learned men do define the *Pest* by a *Feaver*, and do hold that there is no *Plague* without one; but since they confess that sometimes neither *Pulse*, nor *Urine*, or any *Symptome* discover the least *characterisme* of a *Feaver*, 'tis

against common sense to assert what they do in such cases. It is granted that usually the *Pest* is accompanied with a *putrid malignant Feaver* of a very uncertain Type; which sometimes appears not before the *Botch* and its *suppuration*, sometimes it begins with the first *attaque* of the *venome*. If what I have said be true, and that the *Pest* may be without any sign of a *Feaver*, or any sensible indisposition, I much doubt the reality of his opinion who talks so much of the affrighted *Archeus*, and the troubles

which essentially and inseparably befall the *Duumvirate* of the *Stomach* and *Spleen* upon this invasion or insurrection of the *pestilent venome*: and I am more confirmed in my jealousy, because I have read that some of them that have had the *Plague*, have not felt any

Symptome

Symptome about their *Stomach*, not so much as a *debility* of appetite, but sometimes they have complained first of their heads being *discomposed*, and most commonly of anxieties about their heart. But 'tis not my intention to write a *Treatise* of the *Plague*: 'tis a disease I never saw, though at *Fulham-pest-house* and at *Windfor* I gave such *Prescripts* and *Medicines* in the beginning of the *Plague* as did equal in effect any of the *Arcana* of this *Helmontian*. As for the knowledge this talkative person should acquire by dissecting one body, it is but little; it argues want of reason in him to conclude generally from one case: the *Glory* of the *Act* is much abated in this, that *Bontius*, and *Rondeletius* in the presence of many Students dissected several and (which is more) this last denies the *Carcasses* of such as dyed of the *Plague* are not infectious; so doth *Fracastorius*, *Jordanus*, *Gregorius*, *Horstius*: I allow that this last is not a constant truth, and that there are some *Observations* recorded by which it appears that the *Carcasses* of such as dyed of the *Pest* (before putrefaction) have been infectious. But to shew with how much *injustice* he triumphs over the *Galenists* for his having dissected one single body, I shall let the *World* see that the *Galenists* (without proclaiming the fact, or causing a *Picture* of it to be cut) have done as much, and that the variety of *Pests*, and the different effects they produce in bodies is demonstrable. At *Palermo* in *Sicily* in 1647. there was a *Plague*, in which upon the dissection of many bodies by a sort of fellows, all whose knowledge did not enable them to cure a cut-finger, whose skill is but words, and advances nothing: these *Galenists* did Anatomise them. *Hæc visa: vasa omnia venæ cave sanguine ita nigro, adusto, atrabilari, turgida acrepleta, ut fusi atramenti similitudinem præ se ferret. Idem sanguis tum in corde, tum in faucibus repertus fuit, pulmones atque hepar tumefacti, inflammati, ventriculus bile turgidus.*

Sennert. de febr. l. 4 c. 1. de pestilent. Pa. am de Pest l. 1. c. xii.

Rondeletius de febr. de febre pestilentiali.

Volcherus Coster dissected many in the Hungarian Pestilential fever: so did Iffensius, and Rudolphi.

Joseph. Mancius pro sec. cub. vena def. p. 153. 154.

duo, nulla in venis Meseraicis, nulla in intestinis læsio. Eadem hæc uniformiter in singulis fuerunt observata.
 If it be said, that 'twas no great attempt; because it was no very mortal Pest; yet this is certain, that it lay in the mass of blood, and that the Duumvirate was not so much concerned, as G. T. could have wished; nor the blood in the vena porta altered according to Circulation: Well: that last at Naples I am sure was as pernicious as ours at London; and there the Colledge of Physicians caused many to be dissected: I have not met with the Programme published by them, but the Duumvirate gains nothing by what I do read.
Nam dissecta cadavera, hepar, pulmonem, intestina, nigris maculis interstincta, cor vero atro sanguine concreto luridum præbuere, ut Medici Senatus Neapolitani programmata die secunda Junii edita promulgarunt.
 Neither doth it appear that what this Pyrotechnist saw in the body, after the man was deceased, was either the cause or seat of his distemper when he first fell sick: the last strugglings for life might express many liquors into the stomach, and vitals, and they upon their commixture, settling, and refrigerence create, other Phenomena than were meerly the effects of the Pest. 'Tis averred by C. Celsus, *Neque quicquam est stultius, quam quale quid vivo homine est, tale existimare esse moriente, inso morino.*

Carol. Valesius
de Bourgdieu
de pest. p. 239.

C. Celsus me.
dicina l. i.
pref.

Corynæ de
purpura c. 7.
p. 54.
Massarius de
pest. l. i. (inter
opera) p. 497.

That I may the better decide the subsequent controversies, it will be requisite I represent a more exact Definition of the Plague; and to do that well, I must distinguish upon the word Pest, which is either taken in a general sense, and so comprehends any Epidemical contagious disease of which many in the same Country do dye, be it attended with a Fever, or destitute of one, be it occasioned by any specifick malignity, or anomaly of the Air, or arise from evil diet, or imported by contagion. Thus the Epidemical contagious and pernicious Colick recorded in Ægineta, was a Pest:

Pest : thus *Squinancies*, *Catarrhs*, *Pleurisies*, *Peripneumonies*, *Diarrheas*, *Dysenteries*, the *Measles*, *Small-pox*, have been *pestilential*: nay the *Garrotillo* or *Strangulatory disease* in *Spain*, *Sicily* and *Naples*, though it seized upon and infected scarcely any but *Children*, was a *Pest*, and esteemed so by *Aetius Cletus* and others. Thus it was deemed at *Venice* to be a *Pest* of which so many once died, though there were not any other *Symptomes* perceivable in it, but a *tumor of the testicles* accompanied with *sudden death*. *Legi superioribus mensibus libellum Veneti cujusdam, qui experientiam testem citat, multos ex peste mortuos esse, quibus testiculi intumescabant solum, nullo praeterea symptomate aegrotos illos invadente.* It matters not what is the *ancient name* of the disease, which way the *venenate matter* inclines, or what part it principally affects; a *Carbuncle* in the *throat* (as in the *Garrotillo*) is as *pestilential* as a *Carbuncle* on the *hand*, or *toe*, if it be as *epidemical*, *contagious*, and *mortal*. So the *Chin-cough* may be *pestilential* upon the like *qualifications*: and I believe that to be the disease whereof *Ballonius* speaks, that it was *Epidemical* amongst the *Children* in *France* in 1579. He calls it *Tussis Quinta*, and admires how it came by that name, and so doth his *Scholiast* *Mr. Thevart*: undoubtedly it was transmitted from *England*, and thence came that name, which the *French* mistook for *Tussis Quinta*, and *Quintana*: that is the disease I am sure he describes: he saith none ever writ of it: and I believe it to be true as to *foreign Physicians*. Such mistakes will hereafter make work for *Criticks*; who will make strange glosses hereupon, as on the *Milordus* of *H. ab Heere*, and the *Cerevisia Trihopenina* in *Mercatus*; the first imports no more by *unus ex iis quos Angli Milordus vocant*, then one whom the *English* call *My Lord*: and the other intends nothing by *Cerevisia Trihopenina* than *Three-half-penny Ale*, and contradistinguisheth from *Cerevisia dupla*, or *double Beer*. But

H

to

Empr. Codron-
chius de
morb vulga-
ribus, c. 2.
Io. Crato affert.
de febr. pest.
p. 13.
Aetius Cletus
de morbo
Strangulator.
c. 2.
Mercatus,
Consult. med.
14.
Dud. b. in
ter Ep. 11.
Scholiastii.
Ep. 51.

Ballonius
Ephemer. l. 2.
p. 237.

Mercat. de
recto med.
praesid. usul. 1
c. 2.

to resume my discourse; I add that in such times as there are diseases of sundry types, and several symptoms, so as that they may seem to be different and sporadical diseases only, yet in case they be malignant, vulgar, pernicious, they are to be accounted either as so many Pests, or as one, under several disguises: for it is not alwayes true that in the time of the Pest all other diseases cease, as is evident out of Hippocrates: Thus Pestilential Peripneumonies, Squinancies, and Pleurifies did at the same time rage in Germany, (as Wierus relates) near the Rhine in 1564. And during the Siege of Breda amongst the Garrison at the same time, besides the vulgar Plague many pestilential diseases, as Tenesmes, Dysenteries, Cephalalgies, and Catarrhs, which retaining their distinct types, were with all pestilential: nor is it strange that I should reckon upon all these as radically one disease; for in the vulgar pest, such was that at Athens, there are reckoned up as one Pestilence a multitude of diseases that, were it not for that common mixture of a pestilential venomo, must have been reduced to several heads. Thus in the spotted Fever at Lubec did Neucrantzius observe that almost all manner of diseases were the effects of that Pest: "Purpure venenata qualitas intro concepta, ut tota specie nobis adversa, ita ad morbos totius substantiæ merito refertur." Quamvis enim uliro concedam nullum fere morborum aut symptomatum genus dari, quod non in purpura sese offerat: isti tamen morbi consuetis non cedent remediis: & in singulis morbis ac symptomatibus peculiare atque abditum quid apparebit, quod experto & prudenti Medico supra sortem istorum, sed simplicium, morborum esse, imo a cæteris similibus totius substantiæ morbis se vindicare, totoque genere inimicam illam qualitatem, in qua essentialis morbi hujus proprietas posita est, manifesto declarare videatur. Sic lues venerea nulli non morborum conjungitur, qui tamen non illis consuetis remediis, sed alexiteriis

Hippocrates
Epidem. l. 3.
cum notis
Vossii. p. 279,
280, 281.
Wierus Obs.
l. 1. de epidem.
pleurit. &c.

Vander Mye
de morbis
Bredanæ, p. 4,
5.

Alex. Massar.
de pest. l. 1.
inter opera.
p. 510, 511.

Neucrantzius
de purpura,
p. 65.

alexiteriis junctis se curari postulant, adeo ut plerumque fallant non solum agrotantes, sed ipsos etiam medicos, docente Fabio Paulino lib. 1. comment in pestem Atticam Thueydidis, p. m. 37. Idem in Scorbulo Arctoïs locis medicinam facientes experimur, qui cui libet morborum & symptomatum conjungi solet, ut nullis in reliquo corpore sceletyrbes indicis morbi qualitas uni membro impressa aliquando hæreat, medicos non raro ludat, curationemque moretur.

Under the aforesaid Definition of Pests I include all those that are called Pestilential feavers, such as the sweating sickness, Hungarian and Spotted feaver, the Heftick and Semitertian pest, of which you may read in Schenckius: for by the doctrine de Conjugatis, a Pestilent Feaver is a Feaver that hath the Pest. This is not meerly a Logical Quirk; several Practitioners averre it: and particularly Mindererus: whose words in opposition to such as distinguish betwixt a pestilential Feaver and the Pest, are these.

Schenckius
Obs. Medic.
l. 6.

Raymond.
Minderer. de
pest. c. 6.

Febris pestilens (ut illorum distinctione utar) aut vera est, aut non vera; si vera est, nil aliud est nisi Pestis ipsissima, & ut doctissimus Hieron: Mercurialis loquitur a vera peste inseperabilis: si non vera, jam nihil vel parum commercii cum peste habebit, & sic pestilens non erit, nisi ob similitudinem aliquam symptomatum (quod forsitan Galenus voluit) ita eam appellare placeat, & sic inter malignas annumerabitur: quod si gradum intenderit & vere pestilens effecta fuerit, nil nisi pestis erit: alioquin simile esset dicere hic Saxo est aut Suevus, ergo non Germanus: aut hic Heiruscus est ergo non Italus. Unde febres malignas quovis & equivoce pestilentes quandoq; dici observandum. i.e. A pestilent Feaver (to use their distinction) is either really such, or it is not so: if it be really such, then it can be nothing but the Pest it self, and as the learned Mercurialis observes, no more distinct therefrom than it is from it self: if it be not such really, then it is not to be ac-

Id. ibid.
Neuron & ius
de purpura
c. x. p. 150.

Neuerantz. de
purpura, c. 3.
p. 35
Isbr. a Diem.
brook de Pest.
l. i. c. 1. §. 3. &
c. 2. sect 3.
Minderer. de
pest. c. 6.

Schenckius
Obl. med. l. 6.

Corynoris de
febr. purp. c. 5.

counted *pestilential*, except you please to *nick-name* it so by reason of some resembling *symptomes* (which it may be was the sense of *Galen*) whereas it ought to be reputed only *malignant*, above which *degree* if it rise and become truly *pestilential*, 'tis nothing else than the *Pest*: And to say *otherwise* is as absurd as to argue, this is a *York-shire* or a *Devon-shire* man, therefore no *English-man*. From whence it is evident that *Feavers* purely *malignant* are but equivocally stiled *pestilential*: and all that are *pestilential* are sorts of *Pests*. Thus when *Pestilential Pleurises*, *Squinancies*, *Cholerick passions*, *Lethargies*, *Erysipelas's* do rage, they loose their usual *denomination*, and become so many *Pests* (or the same) attended with a *Pleurisie*, *squinancy*, *Cholerick passion*, *Lethargy*, or *Erysipelas*, &c. And then those otherwise *formal diseases* become but *symptomes*, and *accidental consequences* of the *Pest* which vary not the *essence* thereof. Nor is it necessary to the truth of the *Definition*, that all these *Pests* should be *actually* *Epidemical*, or *afflict all sorts of men*; or be *alwayes equally mortal*: for the *spotted Feaver* is as much *included* here, though it extend no further than *one single person*; and so is a *pestilential Catarrh*, or *Cough*, as our *Physicians* include the *Plague* (commonly so called) under *Epidemical diseases*, though sometimes it extends not its *contagion* beyond *one family*, or destroy but *one person*. It hath happened that a *Pestilential Peripneumony* accompanied with *spitting of blood* was more fatal than any vulgar *Plague* ever heard of: such was that in 1348. written of by *Guido de Cauliaco* (who lived then) it posted from the *East* to the *West*, and scarcely left surviving then the *tenth part of mankind*, if so much. And the *Spotted Feaver* hath sometimes been more pernicious than the *Plague* in *France*: Again, I must say that sometimes even these *Pests* may not be pernicious or mortal: Such was that *Pestilent Epidemical Cough* in

1580.

1580. which over-ran all Europe, yet, as sick as men were, there dyed not one of a thousand: yet doth not this derogate from my opinion, since not only those that write of it do allow it to have been pestilential; but even in the vulgar Plague, where it is expected most should dye, at Millaine in 1576. and 1577. Septalius, who was Physician in it, records it, that many more survived than died at that Visitation: yet, says he, would I have no body to deny it the title of a Plague, for it had all other signs of the Plague.

There is a great discrepancy betwixt the violence and symptoms of the same pestilential disease in its beginning, progress and end; betwixt such a disease (to appearance the same) when it rages at one time and at another, in one season of the year and in another; upon some sorts of men above others, and some Nations above others (though living together, and using the same dyet and course of life) whereupon circumspect Physicians maturely considering that this variety cannot be alwayes imputed to the discrepancy of dyet, or difference of seasonableness in years, or such like circumstances, they have allowed of a great variety of venomes, or gradations of putrefaction, and esteem these Pests, though they do agree in one generical nature, and some resemblance of symptoms and effects, yet to arise from different poysons, or gradations of putrefaction; and hence it is that no two Plagues are ever almost cured alike; nor is it possible for to find out one universal Antidote against them all: As in poysons some are Septic, and Arsenical; some of another nature, as the poyson of Scorpions, Vipers, the Serpent Dipsas, &c. of Napellus, Aconite, &c. so in Pests, by the effects, it is no vain fancy in the Paracelsians, and Quercetan, or Mindererus to guess that there is a variety of venomes in qualities corresponding much with those known poysons, and analogous unto them. " His consideratis, observatoque variarum pestilitatum diversis locis ac temporibus.

Wierus Obs. l. 2.
de pestilenti
& Epidemica
tussi: & Fore-
stin Obs. l. 6.
obs. 3.
Io. Sporischius
de febr. Epid.
c. 4. p. 128.
Vallenola in
append. ad
loc. commun.
c. 2.
Sept. l. de Pest.
l. 1. c. 14. p. 23.

Quercetan:
redivivum.
Art. medic.
pract. p. 39.
40. &c.
Mindererus de
pest. c. 3.

poribus grassandi modo, magistra rerum experientia docebit, venenum pestis adeo esse varium & diversum ut singulae propemodum pesti suae sit peculiaris juncta malitia inferenda neci sufficiens, cujus discrimen a nocendi modo & symptomatum varietate petendum sit. Diligentissime proinde haec venenositatis & pestis animadvertenda, & curationem suscepturis observanda. Etenim si pestis graves somniculositates, ingentes sapores Lethargos & comata invexerit longe aliter tractari sese postulat, quam si vigilas inquietudines aut ingentes cordis siccitates intulerit. Venenum enim pestilentielle modo Dipsadis, modo Vipera, modo Cicuta, modo Napelli aut alterius exhibiti toxici naturam emulatur, cui in curatione singulari diligentia attendendum.

Prout igitur his, per peculiaria ac cuique propria antidota succurrimus, ita & pesti, modo per haec, modo per alia alexipharmaca obfistendum admonemus.

Et nos quandoque haec ipsa studiosius considerantes, pestem ab exhibitis venenis aut animalium venenatorum citu, morsu ac percussione immixtis vix quicquam differre cognovimus.

Concerning the Spotted Feaver was observed by that solid and circumspet Praetitioner Paulus Neucrantzius. "An etiam purpurati veneni essentiae diversitas variare purpurae symptomata poterit? Ita censeo. Namque ea late admodum patet, & universo ambitu venenorum fere circumscribitur, variatque ut illa varia & prope innumera sunt. Hinc plerumque continuarum februm indolem ementita; interdum anginae malignae epidemiae, pleuritidis, colicae, alteriusve morbi specie, singulari quasi partium delectu, affligere, atque hujus aut alterius veneni deleteriam vim emulari videtur, ut morbum hunc novis plerumque symptomatibus emergere medici observarint. Ut enim in peste varietatem veneni memorant Anthores, qua eadem interdum Antimonii, interdum Arsenici, Napelli, aut alterius venenatae materiae virus exprimit, symptomatum similitudine, & alexi-

P. Neucran-
tzius de pur-
pura, c. 6.
p. 69, 70.

alexipharmacorum diversitate : ut quæ uni pestilentia
 saluti fuere, succedentibus annis in altera peste consue-
 tos effectus negent ; ita & in purpura ac malignis se-
 bribus eandem affectuum diversitatem, nec eadem re-
 media semper prodesse advertere licet. Sed nec diver-
 sis solum temporibus purpuram diversos characteres ex-
 primere, sed in una & eadem Epidemici constitutione,
 modo hos, modo alios referre, credendum, eadem essen-
 tiali sed specialissima veneni diversitate ; quant specie
 ab altera variat, ita pro indolis suæ conditione diversa
 symptomata procreat, æmula & hic maxime pestis con-
 stitutione, in qua in eadem tempestate diversos specie
 morbos, qui ex illa maligna aeris impressione pernicio-
 sam vim acceperint, grassatos fuisse notum, ex epidem.
 l. 3. sect. 3. I might illustrate this further by the
 difference betwixt the Sweating Sickness, and
 other Pests at onetime, and another : But I have said
 enough to shew that notwithstanding my Definition, I
 do allow that Pests may not alwayes be equal or equal-
 ly pernicious, or equally contagious, and yet retain
 their name: there may be such different degrees of venoms,
 or that superlative putrefaction, and yet the species not
 be varied. I speak dubiously about the terms of *venome*
 and superlative peculiar putrefaction, because the case
 is intricate, what to call it. I know the Philosophy of
 this Age, which consists most in Similitudes, will more
 approve of *venome*; but if it be hard to defend Pu-
 trefaction in order to the production of Pests, 'tis no less
 difficult to illustrate Contagion by Poysons; and in re-
 ference to the practise of Physick in Pests, I think I can
 demonstrate that the Galenical notion of putrefaction is
 the most utile. Some men think they make a great
 improvement in a Science, if they illustrate it by a new
 Metaphor, or introduce a novel term; the import where-
 of is no more emphatical or perspicuous than the for-
 mer; yet this must be deemed a new discovery, and by
 the imputation of ignorance, Students are deterred from
 reading the best Authors.

Thus

Thus we climb downward, and advance as much as he that turn'd Donne's Poems into Dutch.

It remains now that I proceed to define the Plague in that sense to which it is in vulgar speech restrained: and amongst the several definitions that are given of it by judicious and experienced Practitioners, I shall fix upon that of *Mindererus*, as the most exact and conformable to the reality of the Phenomena.

*Mindererus de
pest. c. 6.*

The Pest is a venenate malady, very deadly, and contagious, primarily affecting the heart, and commonly attended with a Fever, B O T C P, Carbuncle, and Spots or Tokens.

*Libr. a Diemb.
l. 1. c. 1.*

This Definition whosoever would see well illustrated, let him read the Author, and also *Isbrandus a Diembrook*, *Palmarius* and *Quercetan*: not to mention others. It appears evidently hereby that this Pest is but a species of that other more general notion: It ariseth from a peculiar sort of putrefaction, or venome, and though it have symptoms different from its contradiſtinct species, though it be peculiarly called the Pest, the sickness, the Plague, ἐπιδήμια, νόσος ἐπιδήμια, λοιμὸς, il morbo, la malady; and such as make it a superlative putrefaction, to shew that it is but of a different degree from the others, may alledge that sometimes malignant pestilential Fevers have turned into this Pest naturally, or upon an evil method of curing. Exact Definitions are no more to be insisted on in Physick, than in Law; 'tis enough that they are commonly true, and that a judicious Practitioner knows when they hold, and when they fail. I have demonstrated that the Plague (so called vulgarly) is not so pernicious always as the spotted fever, or pestilential peripneumony: it is not always contagious. Tales sunt illæ febres, quas Galenus, 3. epid. comm. 57. & alibi, pestilentes

*Schenckius
obs. l. 6. &
Hieron. Ruben
in C. Celsi
l. 3. c. 7. p. 143.
Riverius
prox. l. 17.
sect. 3. c. 1.*

*Libr. a Diemb.
l. 1. c. 12. §. 4.* illæ febres, quas Galenus, 3. epid. comm. 57. & alibi, pestilentes

pestilentes sine peste vocat. quales se non raro observasse
 testatur Amatus Lusitanus cent. 7. curat. 27. Imo
 Quercetanus in Alexic. & Riverius scilicet 3. de febr.
 cap. 1. dicunt hujusmodi febres non semel visas fuisse
 cum vera pestis indicibus (puta Anthracibus & Exan-
 thematibus) & tamen a vera peste longe diversas fu-
 isse, quia non erant contagiosae. Has febres Saxonia
 & Riverius appellant Pestilentes sporadicas; Crato
 & Liddelius, pestilentes privatas: alii pestilentes
 spurias. — I shall add a passage of Crato, which is
 not that to which this Author refers, but which He, who
 lived so long, and was so competent a Judge by the Ex-
 perience of many pestilential diseases, as his dying words
 doth import to the World: "Initio vero hoc tenen-
 dum, quod supra etiam monui; pestilentes morbos hoc
 quidem habere proprium, ut sint plurimis perniciosi,
 graves & lethales. Ut autem per contagium com-
 municentur, nisi putredo ad istam malignitatem in iis
 divenerit, ut morbidam expirationem transmittant in
 alia corpora, non necesse est. Plurimos enim interire
 nullis prorsus contagionis indicibus extantibus, apparet.
 Pestilentes igitur privatos, nisi putredo in iis orta mor-
 bidum exiret, astantibus innoxios esse affirmamus —
 Accedit ad hoc quod nostra quoque aetate in multis regio-
 nibus orientalibus & Meridionalibus, Pestilentias plu-
 rimis exitiosas fuisse constat: in quibus neminem con-
 tagione contaminatum, nec ullos a consuetudine agro-
 tantium refugisse legimus. i. e. In the first place it is
 to be held for a certain truth, that pestilential diseases
 have their properties, that they are deadly to most, being
 very afflicting, and mortal. But that they should be
 contagious, it is not necessary, except the putrefaction
 be come to that height as to produce such a morbid
 exhalation as may infect other bodies. For it is most
 apparent that many dye, and yet there is not any sign
 of contagion to be demonstrated by its proper effect,
 of having introduced the like sickness in others.

P. Zacchias
 though he do
 hold that the
 Pest is most
 commonly
 contagious,
 yet he proves
 it is not neces-
 sary it should
 be alwayes
 so Quest. Me-
 dico. legal.
 l. 2. tit. Qu. 2
 sect 21, 22.

To Crato assert.
 lib. de febr.
 pestilent. p. 18

Id. ibid. p. 20.

We do therefore avow, that those we call *private Pests* do not prejudice or infect those that attend the sick party. — Besides, even in our Age several deadly Plagues have destroyed multitudes in the Eastern and Southern Climates of the World, which yet have not diffused themselves by *contagion* unto others, so that none have declined to converse with the sick.

Whereas it is said in the Definition that it *primarily affects the Heart*, it is not to be understood so constantly, though generally a great *debility and disorder of the pulse, and prostration of the strength* ensue: for sometimes an *indisposition in the Stomach* is the first sensible symptome the Patient feels: and sometimes the Head is first and *primarily* affected, as in those that are *Lethargical and Soporows, or Vertiginous*. I read that *A. Parvus* going to visit one sick of the *Plague*, and hastily taking up the *bed-clothes*, that he might see and dress a *Bubo* which he had in his groin, and *two Carbuncles* upon his belly: presently a sudden thick, noisome vapour issuing from the *Carbuncles* that were apostimated, and broke, pierced his nostrils and discomposed his brain, so that he swooned away, and fell as it were dead and senseless upon the floor: afterwards coming a little to himself, he was giddy, and every thing seemed unto him to turn round, so that he had fallen to the ground again had he not laid hold of something whereby to support himself: All the comfort he had was, that he found no indisposition about his heart, no pain, no palpitation, nor any sign of any powerful and fixed debility of his strength. Which confirmed him in an opinion that only the *animal spirits* were tainted with that pestilent exhalation; in which he was more satisfied, by reason that he *sneezed* presently ten times with so great a violence, that his *nose fell to bleeding*, and *that evacuation* (as he thought) freed him from the *venenate impression*: for he felt no other ill effect afterwards.

A. Parvus
Chirurg. l. 21.
c. 12.

In that I say it is commonly attended with a Feaver; it is upon the grounds already alledged: I add that P. Paaw the great Physician at Leiden (in those Provinces the Plague is frequent) denies that the vulgar Pest is to be defined by a Feaver. For it is not an usual Feaver, neither sanguine, or putrid: there happens oftentimes no signs of either of those in the Plague. It is not a malignant Feaver; for neither is the type and characterism thereof to be discovered here, no nor the least sign of heat frequently. You will say that sometimes 'tis a common Feaver, sometimes malignant: but neither is that true, for albeit frequently, nay, for the most part it be accompanied with a Feaver, sooner or later, yet is that but a *symptome* thereof and separable from it: they have different originals; the Pest a *venome*; the Feaver a *putrid heat*. All *poysons* do not ingender a Feaver in him that takes them: why should we think otherwise of *Plagues*? In short, *Experience* shews that sometimes there is no sense of any great or unusual heat in the infected, no *thirst*, no alteration in the *Pulse*, *Urine*, or *Respiration*: where that which is essentially consequent to a Feaver is not to be found, 'tis but reasonable to deny the antecedent to be there. I refer the unsatisfied for to be further convinced by

P. Paaw tract.
de Pest. c. 2.

Sennertus de
febr. l. 4. c. 1.

As to the *Botches* about the *Ears*, *Arm-pits*, and *Groin*, and the *spots* (or *Tokens*) and *Carbuncles*, those are so no necessary to this Pest (though many die before any appear) that the populace is rather *suspicious*, than convinced, till they be seen.

Having premised this long discourse, which I hope will seem neither *useless*, nor tedious to any Reader, the solution of the ensuing *Questions* will be brief.

Concerning *Phlebotomy* in the Pest, whether it be *useful* or *legitimate*, it is a question not to be resolved otherwise than by distinguishing upon the Pest: If it

be taken in a general sense, I answer, that it hath been frequently practised with great and visible success in several Epidemical, contagious and frequently

(a) *Coyttarus* de pur.
purat. febr. c. 12, 13.

Petrus a Castro de febr.
puncticular. sect. 6. & in
dedicatoria epist.

Dilect. Lusitan. de venz.
sect. c. 9. art. 4. p. 119.

Septal. de Pest. l. 5. c. 17.
p. 217.

(b) *Banholin.* de An-
gina puer. exercit. 5.

Severin. de abscess. p. 449.
Menstris consult. 14.

(c) *Cabelchover.* cent. 5.
cur. x. in Scholio.

Ruland. de febr. Ung-
vic. p. 270. & alibi.

mortal diseases, as the (a) Spotted Feaver, the (b) Padanchone or strangulatory disease of the Children in Spain, Sicily and Naples. In the (c) Hungarian Feaver also, and in Epidemical catarrh (when it was in Holland) *Forrestus* did with great success bleed, in 1580. *Obs. Medicin.* l. 6.

obs. 3. But I must also say, that our Experimental Physicians in these cases do sometimes interfere one with another; and at least it is manifest that most of those diseases have been cured without bleeding: that it is to be administered with great caution; yet is it never more true that Medicaments

are as it were the hands of the Almighty, then when in such diseases Phlebotomy is prudently used: all circumstances must be duly weighed to the administration thereof; and there are so many fatal instances of the evil success, that though they are ballanced by contrary Experiments made in all Countries, yet ought the wisest to be timorous; and the ignorant ought to consider, that since in such diseases most dye by the violence thereof (and this is their nature) it ought not to seem strange, if Phlebotomy prove us ineffectual, as other Remedies do. In such diseases, 'tis not rashly to be attempted in the beginning of the disease (as *Coyttarus* in his excellent discourse observes) but when it is in his progress, and that the nature and tendency of the person is manifest, and the strength of the Patient better judged of, if indications require it, nothing is more beneficial; not that it is then administered to evacuate the poison (as our ignorant *Helmontian* doth suppose) but to allay the putrid Feaver, and concoct it; for revulsion in pestilential Pleurifies, and squinancies,

(wherein

(wherein each wise man divides his cares betwixt the malignity and the disease it self) to prevent further putrefaction or those inconveniences which some direful symptomes menace the Patient with.

In the more limited sort of Pest, commonly termed the Plague, as the disease is usually more pernicious than in those others, so do Physicians multiply their fears, and Patients their suspicions. They are much divided upon the point; and though the generality of modern Writers oppose Phlebotomy, (or suspect the good issue) nor can the happy instances for the contrary (though they may be alledged in all Countries) suffice to imbolden the present Age. The happy practise of Botallus is not regarded: Massarias (as learned and as well versed as he was in the Plague) is not able to convince men: Not Rodericus Fenseca at Lisbon, not Septalius at Millain, not the cautelous Forrestus, who let them bleed in the Pest at Delph within eight hours after infection; though it were occasion'd from famine and misery, and that with good success: not the president of Hofman in the Plague at Norimberg: Not the constant practise of the Egyptians, who in all pestilential diseases, and plagues do bleed largely the sick parties, as Prosper Alpinus relates; and whose example and experience did so convince him, that in that excellent Book of his de Medicina Methodica he thus expresseth himself for the cure of pestilent Feavers, and the Plague. 'Itaque taxata a'vo lenitorio Pharmaco, ad vacationem sanguinis declinandum. Primo secta interna vena cubiti dextræ in ea copia mittatur, quam vires permittent: & in altero die, si corpus sanguine abundaverit, & vires permiserint, ex altero brachio evacuationo sanguinis erit repetenda: in pueris, & in viris, & mulieribus albidioribus sanguis mittendus itidem erit copiosus cruribus scarificatis, ex qua scarificatione, facta sanguinis evacuatio in febribus pestilentibus est utilissima, quia cum ipsa quantum sanguinis

Hieron. R. 7.
in C. Col.
sum. l. 3. c. 7.
p. 140, 141.

Botallus de
venæ sectio.
ne, c. 7.
Massarias de
Pest. l. 1.
Roderic. a
Fenseca in ap-
pend. ad
Iacchin. de
febr. p. 354:
Septal. de pest.
l. 5. c. 14.
Forrestus Obs.
l. 6. obs. 17.
C. Hofmann:
Anti Ferncl.
temm. 64.
Prosper alpin.
de medic.
Ægyptior. l. 2.
c. 7. p. 54.
Prosper. Alpin.
medic. meth.
l. 5. c. 2.

In lib. 7. c. 20.

Th. Brasav
epist. 25.

guinis volumus, evacuamus, sine virium magna jactura
 (quod e longinquis partibus educatur) sine violentia, &
 quod maxime in hisce febribus videtur desiderandum,
 quoniam ex ea evacuatione a supernis partibus ad infer-
 nas fiat revulsio: Unde mirum non est, si nos sæpius
 in hisce agrotis vigilas, vel dolorem capitis, vel deli-
 rium, vel surditatem, vel aliud symptoma simile con-
 tinuo sublatum viderimus, præsertimque si copiosa fa-
 cta fuerit evacuatio. De hac Oribasius ita scripsit:
 Et sane dum pestilentia vehemens Asiam deprehendis-
 set, multosque perdidisset, neque etiam morbus attigis-
 set, secunda morbi die remissione febris facta, crus
 scarificavi, duasque libras sanguinis detraxi, hacque
 de causa periculum vitavi. In pueris & infantibus in
 quibus una cum pestilenti febre vel exanthemata vel
 variola apparuerint, perpetuo summam utilitatem ab
 hac evacuatione subsecutam vidimus; qua Egyptii
 Arabesque nullum utilius præsidium in hisce febribus
 esse longa experientia cognoverunt. Not all this can
 either justify or excuse a Galenist unto these Helmon-
 tians: I add the opinion of Erasius who lived in Ger-
 many, which Climate and Nation may seem to corre-
 spond better with the English; after he had given his
 reasons for Phlebotomy administred in the beginning, in
 plethorick bodies, and where nothing doth contra-
 judicate, especially in such as were used to bleed, or had
 any sanguinary evacuation at the nose or other parts,
 stopped on a sudden: and after he had refuted the
 Arguments of such as would cure the Pest in his time
 with Alexipharmacs and sweating only; he adds,
 Equidem una consuetudo fere præstare videtur, ut
 nostris hominibus venæ sectio in hoc morbo minus no-
 cere videatur. In hac peste prorsus multi ex rusticis
 vicinorum pagorum nullo alio remedio affugerunt. I
 might cite the judgment of many more in this case, as
 Rondeletius, Mercatus, Trincavellus, Jo. Costæus,
 Altomannus, Pereda, Andernachs, Sarracenus, Massa,
 Mongius,

Mongius, Paschalius, Mercurialis, Zacutus Lusitanus, Bayrus, Carolus Valesus du Bourgdieu, Joël, Thebartius (upon *Ballonius's* Epidemia p. 50, 51.) *Hieronymus Rubens* upon *Celsus*: Of the Ancients *Aetius, Avicenna, Avenzoar*, and that Latine *Hippocrates. C. Celsus* who particularly sayes, *si vires sinunt, sanguinem mittere optimum est; præcipueque si cum ardore febris est.* But I conclude with this assertion, that in the Controversie about Phlebotomy in the Plague, the number of them that defend it exceeds that of those which oppose it, and their learning, judgment, practise, the reasons, the Experiments they alledge at least, equals what their Adversaries can pretend unto: Some Arabians have advised in the beginning of the Plague (before the disease hath impaired their strength) that the infected should bleed even until they swooned: And *Platerus* informs me, that some having pursued that counsel avow that they have cured many, and therefore dislike all minute Phlebotomy in comparison of that which is so copious: thus *Bayrus* in his Treatise of the Pest commands, that if the Patient be robust, plethorick, and the pestilential Feaver be accompanied with a violent putrid Feaver, he bleed largely. But to deal candidly in this affair, I do think that of the Germans the most are averse from Blood-letting in the Plague, and depend upon Sudorifics.

Because our *Helmontian* doth so opiniater it about the Plague, and would reduce all Feavers (almost all diseases to be cured like it) and insults over the Galenists for their ignorance in the cure, and upbraids them with their ill success in that malady, I shall briefly represent some of the reasons of their evil success; and the arguments they urge against sweating in all Pests,

Citantur ab
Isbrando a
Diemerbroock
de pest l. 3.
c. 3. §. 1.

C. Cels. Medi-
cin l. 3. c. 7.

Cæterum in contrariam
sententiam abeunt complu-
res alii, iidemque doctissimi
Medici, docentes omnino
secundam esse venam, nec
minores paucioresve ad-
ducunt felices successus.
Hieron. Rubens in *C. Celsum*.
l. 3. c. 7. p. 140.

Massariæ de Pest. l. 2.
(inter opera) p. 531.
F. Platerus de febr. (inter
opera) p. 161.

Pests, in the *beginning*, and *process* of the *cure*; as also *sum up* their *practise* about *Plebotomy*.

When I consider the *general desolation* which the *Plague* hath made in all parts of *Europe*, notwithstanding the various wayes, used for the *cure* thereof, and that *Germany* and the *Netherlands* can no more boast of an *infallible cure*, no nor of a better success than *Florence*, *Venice*, *Rome*, *Naples*, *Paris*, or *Sevill*, methinks it is apparent that the *recommendation* of *Medicaments* or *Methods* of *curing* in the *Plague* ariseth from the observation that some by the *happy use* of such a *course*, or such a *Medicament*, have (perhaps amidst *dangerous* and seemingly *deadly symptoms*) been *recovered*: And herein *Septalius*, and *Massarius*, and others, say as much for themselves, as *Mindererus*, or *Sennertus*: And what *Celsus* saith of *Hippocrates*, *Herophilus* and *Aesclepiades*; I cannot but call to mind when I reflect on the *several Methods* of *Physick* endeared unto us by *judicious Practitioners*: Si rationes sequi velimus, omnium posse videri non improbabilis: si curationes, ab omnibus his ægros perductos esse ad sanitatem. So just I am to those *excellent Practitioners*: It is certain that in *Physick* we do oftentimes commit the *Fallacy* of *non causa pro causa*, and attribute those *effects* to one *Medicament*, or *Method*, which either did but *accidentally* ensue thereon; it contributes *nothing* to the *effect* (but only happening to be insisted on at or before the time that the *Phænomenon* discovered it self) or only removing something that hindered the *natural production* of the *effect*, or only acting as a *partial cause* therein, or merely *strengthening* or making room for nature that the *effect* might more easily result. Thus we directly yield the glory of one or more *successful cures* to a *wrong original*, and delude our selves and others not only with *vain hopes* in the *remedy* or *method*, but with new *Hypothesis* raised upon these frail foundations, and with the

C. Celsus in
pref. Medi-
cine.

the same levity reject the *Medicaments* and *Methods* of others, with which we celebrate our own ; nay oftentimes with more ; for those foundations are most sure which are laid by the most men, if they be judicious and observing, and have endured the test of more ages and tryals. If presumption and arrogance could have entombed the Pest, the most insolent but worst of Physicians, that is *Van Helmont* had secured man-kind against its ill effects : and what man could have dyed, or languished under the Gout, or other *Chronical distempers*, if the *Rhodomontades* of *Paracelsus*, *Penalties*, *Severinus Danus*, had contained any solidity ? But experience hath shewed us that we have only exchanged, not amended our practise, the *Tinctures*, the *Essences*, the *Elixirs*, however graduated, or how gloriously soever denominated, do not exempt us from that condition humane nature is subjected unto ; the general intentions of curing cito, tuto, jucunde are old : the performance now answers not the pretenses : the *Athanasia*, *Jucunda*, *Mysterium*, *Ambrosia* (of which you may read in *Galen*) If I were to chuse my *Medicaments* by the sound they make, would seem as good as the *Anima Auri*, *Tinctura polyacea*, or *Pulvis pestifugus* ; and better than the *Alexistomachon*, for that like *Ἀλεξιστράκιον*, *Ἀλεξιστράκιος*, *Ἀλεξιστράκιον*, would affrighten me, as if it were a Medicine to drive away a mans stomach. And if I were to word my discourse I would more willingly use a known tongue, than an unknown, and write *secretary* rather than the *Universal Character* : If I cannot acquire knowledge above others, there is more of vanity than glory in the ostentation of a new-fashioned ignorance. I write this because I am convinced, because I do not believe that there is any thing more intelligible in the modish word *venome*, then in the profound, sordid or superlative, putrefaction wherein the *Galenists* placed the Pest : If such a putridity be unimaginable (which yet is but

Mindererus de
pest c. 3.

graduated above what we see, and unto which 'tis evident that diseases sometimes *gradatim* do arrive) it is certain that there is no such thing as the *Arsenical* or *Napelline* poyson in the Pest; but somewhat forsooth Analogous thereunto, as *Mindererus* and *Sennertus* assure us: and here we are put upon *Gradations* again by which *Cerusse* and *Lithargyre*, *Napellus* and *Tithymal*, *Cantharides* and *Dipsas* are to be transmuted into, or graduated up to *Arsenic*. Most assuredly in this Age the *Chimeras* have exchanged their pasture, and being cloyed or starved with feeding upon the *Second intentions*, they are now *luxuriously* dieted with *Metaphors* and *Similitudes*. I would not therefore have this following discourse to be construed as an *Apolo- gy* for the failures of the *Galenists*, but of all judicious *Practitioners*, even of different principles, who intermeddle with the *Plague*.

Sennert. de
febr. l. 4. c. 1.

Anton Ben-
venius obs.
Medicin. c. 54.
H. Florentius
in notis ad
R. Paare de
pest p. 154,
155.

The first reason of their miscarriage, is the difficulty or rather impossibility of discovering of the *Plague* oftentimes in its first approach, and sometimes the disease continues and makes a progress hopeful and promising for several dayes: and then manifests it self in the sudden death of the Patient: of the truth hereof I need no Instances: the only care a *Practitioner* can shew is (after that frequent *Funerals* have informed him of an approaching or raging Pest) to tend his Patients whatever the distemper be (little or great) as if it were the *Plague*: and yet that this supposition is fallacious, I can demonstrate out of the Histories of several *Plagues*, particularly that of *Vicenza*, and *Breda*. Here then our *Physician* is no more to be blamed, than he is for not being an *Angel*, or a *Deity*.

Another reason is, that the sick parties do not come to our *Practitioner* upon the first and smallest sense of the disease; for after the Pest hath seized upon them a
few

few hours (eight or twelve hours) Sennertus himself could not cure one in an hundred : and of this Eras-
stus complains (who was for bleeding) that most that
 died came not unto him till that the Plague had too
 far seised their spirits, and debilitated them so as to
 render all means ineffectual, though he tryed *Sudorifics*,
 and complied with all *Hypothesis* in his practise. I must
 here note that the diversity of *Plagues*, as to their na-
 ture, and continuance, makes a greater latitude in the
 opportunity or timing of *Medicines*, than to restrain it to
 eight or ten hours ; but this cannot be known till the
 Plague hath lasted some while.

Sennertus de
febr. l. 4. c. 6.

Erasmus ep. 23.
p. 90.

A third reason is the great difference betwixt the
 Nature of one Plague and another, so that neither one
 Method nor the same Medicaments will serve in all Pests,
 no nor in any two hardly : besides the particular diver-
 sification which the Pest receives according to *idiosyn-
 crasy* and constitution of each infected person. And
 for this reason Nicolaus Ellain in his Treatise of
 the Plague (commented upon by the renowned Guido
 Patin) refused to write down a special cure of the
 Pest in that book.

Quantum ad curationem spectat,
eam attingere nolui, quia periculosissimum est ex solis
universalibus regulis curationem instituere, idemque
calopodium singulis quibusque adaptare. Juris perito-
rum effatum est, Theorias generales non informare
animum practicum, qui consistit in singularibus. Si
haec propositio in jure vera existit, potiore locum in
Medicina habere debet, in affectu presertim adeo anomalo
atque insolenti, cujus ut Protei, nunquam facies eadem
est. Nulla enim pestis alteri similis est, nisi in uno,
quod scilicet ea correpti maximam partem intereant.
Constans opinio est, tot fere species morborum pestilenti-
um esse, quot annorum, quibus in vulgus grassantur. Va-
rianda proinde curatio ex affectus, causarum, symptomata-
tumque varietate: ratioque habenda temporis, regionis,

N. Ellain de
pest. apud
Guibert. Med.
Offic. p. 533.

sexus, etatis, temperamentis, peculiarisque cujusque natura (quam Graeci idiosyncrasiam vocant) plurimaeque aliarum conditionum a Medico expendendarum. Insignis igitur abusus foret in peste curanda eadem uti Methodo. i. e. As for the cure of the Plague, I would not intermeddle with it; because it is a most dangerous thing to form a particular practise out of general rules alone, and as it were to work all peoples shoes upon the same last. It is a Maxime amongst the Lawyers, that General Theories do not accomplish a Practitioner, whose business lies in particular and promiscuous Cases. If this be true in Law, I am sure it ought to hold good in Physick, especially in a disease so anomalous and so seldom happening, as this is, and whose Type is as changeable as that of Proteus, never exactly the same. For no Pest ever was like unto the other perfectly, except it were in this one qualification, that most that are infected dye thereof. It is a constant opinion in many, that there hath been, and alwayes will be almost as many sorts of Pests, as there have been, or can be Pests: And therefore the cure thereof must be varied according as the disease, its causes, and symptoms vary: and particular regard must be had to the season and course of the year, the countrey, the sex, the age, the temperament, and the individual constitutions of persons, and many other circumstances which a judicious Physician must consider. Wherefore it would seem an abuse and imposture to prescribe or follow in every Pest the same Method. The truth of which Assertion is so universally assented unto, that Mindererus doth caution us diligently to attend unto the course and symptoms of the Plague, and to vary our Method and Medicaments accordingly, and tells us that in individual persons (and not only in the Plague it self) we shall find reason to guess that the pestilential poison admits of an unexpressible discrepancy and variety; And partly from its native variety, partly from concurrent circumstances

With him a-
 gree Gerar-
 dus Columba
 de febr. pestil.
 c. 24. p. 253.

Mindererus de
 pest. c. 2.

in the Patient, and Ambient, &c. and combination with sundry humours and intire commixing with them, it grows up and is improved into new sorts of venome. And from hence, he saith, ariseth a grand difference in the cure as well as effects of each Pest, so that a multitude of tryals must be *circumspectly* made, the motion of Nature in the recovery of the Patient observed, and many die, or involuntarily, yet unavoidably, be dispatch'd, before the right Method can be known. *Hoc enim in incognitis, usu persæpe evenit, ut non nisi aliorum damno sapiamus, & ex complurium strage quos morbus perdidit cæteros servare discamus; nihil interim laudis Medica facultate ab hoc amittente, utpote quæ plus studii in incertis observandis, quam in lucidis jam & perspectis malis, commodo consilio amovendis removendis-que sollicita impendit; etenim & Magistratus ad occultum furem deprehendendum debita adhibens media, non minus suo officio fungitur, quam si hunc ipsum comprehensum, capite plecti aut morte multari præceperit.* Since then it is manifest that there is so great a variety in general amongst Plagues, and so great a discrepancy in particular Plagues, arising from individual constitutions and other circumstances, since the different motions of Nature are such, that sometimes it is terminated happily by sweat, sometimes by stool, sometimes by urine, or an hæmorrhagy. Since it is a disease that so seldome happens (especially here amongst us) that 'tis impossible for any man to acquire a practical dexterity in knowing, or curing it: there is not any intelligent person will condemn the Galenists, or other prudent Physitians for ignorance; but rather deplore the misfortune of Man-kind which is subjected to so monstrous and pernicious a malady as this is; and by a pious and penitent life rather study to divert the Divine judgment, than to depend upon what is Humane.

These

These discourses will satisfie any man of the *vanity* of those pretences of an *Universal Medicine* for all *Plagues*; or of acquiring any *superlative skill* by the dissecting of one infected *Body*, or feeling one sort of *Plague* twice or thrice; whereas not only each *Pest* differs in *specie*, but often in *individuo*: and undoubtedly, according as the *venome*, and *venenate symptomes* differ, so would the several bodies it dissected.

As to the *reasons* why the *Galenists* do not suspend the cure of the *Pest* intirely upon *Diaphoreticks*, and repeated *Sudorifics*, I find that they do urge these.

They do conceive that a *Physician* is obliged to be the *Assistant of Nature* in all diseases, except it manifestly appear that she acteth irregularly, or by way of such an *irritation*, as to comply therewith were to destroy the *Patient*: they know what their *Method* obligeth them unto; and what *necessity* doth often put them upon: that some diseases are cured with more facility than others; that 'tis the nature of some diseases not to be cured at the same time, nor in the same manner: that as men are oftentimes forced to make the best of a bad market, so in some indispositions they know what they desire, but know not how to effect it, but by means extraordinary, and by a greater difference to the distemper than it is their inclination to submit unto: 'tis not ignorance and folly, nor the want of generous Medicaments, which makes them comply, but a tenderness of the lives of the sick, and the discharge of a good conscience; which last obligeth him alwayes to the safest way, and not to follow either doubtful and questionable opinions in *Physick* (which may pass for probable, if that be such against which it is one thousand to one that it is false) or to prescribe Medicaments which the rule

Scire enim
quid fieri o-
porteat, mag-
na res non
est, sed quibus
rationibus
illud efficias,
id vero ardu-
um. Galen. 6.
m. m. c. 2.
P. Zacchias
Qu. Medico-
legal. l. 6. tit. 1.
qu. 7. §. 2.
id ibid. §. 7, 8

rules of Art and Experience do not justify. Wherefore they do imagine that a Physician ought to imitate Nature when she does well (and well she does, when she cures the disease) and since Nature doth in several Plagues acquit her self sundry wayes, that therefore they ought not to confine themselves to one: Particularly, since some Plagues have been cured by spontaneous (a) Hemorrhages at the nose, others by Stools, 'tis most irrationale to expect that any should do otherwise in so dangerous a malady, than to consider the ultroneous emotions thereof, and accordingly to demean himself.

(a) Erasistr.
epist. 25 p. 97.
c. 2. & Theor.
var. in Schol.
ad Ballon.
Epidem. p. 50.
51. Schenkii
(ex Parac.)
l. 6. p. 770.

Secondly: Seeing that (b) all Sweats in the beginning of a disease are rather bad, than good: since in the Plague few or none are ever freed (c) by spontaneous Sweats: since Nature takes (d) another course by discharging it self into the glandules of the Ears, Arm-pits, and Groin: They do not think that they ought to pursue that Method. "Ex his arbitrator, patet, Sudores statim ab initio febris hujus per vim adeo calidorum medicamentorum evocatos, non tam utiles esse quam aliqui putant. Siquidem spiritus evacuantur, vires dejiciuntur, sanguis agitur, turbatur, magisque acuitur febris, quod subtile est in sanguine excernitur, sicque crassior intus relicta materia citius & facilius interficit. Idcirco magis videtur factum & consilium eorum approbandum, qui ab his medicinis calidis abstinent, sive sudant egri ab initio, sive non sudant. Certum namque est, Sudorem sponte sub initium morbi prodeuntem, diaphoreticum & symptomaticum, non laudabilem & criticum esse.

(b) Hippocr.
sect. 4. Aphor.
36, 37, & 42.
Erasistr. ep. 25.
p. 99.
(c) Erasistr. epist.
25. p. 97 c. 2.
(d) id. ibid.
p. 98.
Erasistr. ubi sup.
pra. p. 99.

Thirdly they argue; that since there is such danger least the Patient infected should dye for want of strength before the disease be cured, and that above all others the vital indication to preserve the strength ought

Libr. a Diem.
brook de pest.
 l. 3 c. 2. §. 1. 6
 & l. 2. c. 6.
 §. 14.
C. Celsus l. 3.
 c. 7.

Eroft. ep. 25.
 p. 97.

ought to be most prevalent with a *Physician*, and regulate him in the administering of his *remedies*: since the regard *hereunto* makes them to quit their *usual course* of dyet, and even *compel* their Patients to eat plentifully, and drink wine ('tis no *Helmontian* Proposal, but transmitted to as from *Antiquity*) they conceive it not fit in the beginning of the *Plague* to debilitate the sick with a *violent* and *tedious* Sweat (perhaps to be reiterated twice or thrice in twenty four hours), whereby the *spirits* will be *extreamly* dissipated (much more than in *Phlebotomy*) the *humours* good and bad promiscuously evacuated, and the *blood* and *grosser humours* (which are not exhausted by Sweat, and in which commonly the *Pest* is seated, as is manifest from the *Botches* and *Carbuncles*) continue infected still. *Sane spiritus per sudores affatim & copiose vacuari satis indicant prostrata afflictaeque vires post longum sudorem: Crasse & inquinati sanguinis nihil aut particulam exiguam educi, probant accidentia, quae fere omnia fiunt post sudorem deteriora.*

Fourthly, Though they do very much commend the intentions of such as would presently and without any delay expel the *morbific* poison; yet they conceive that where the *Plague* ariseth from *previous evil humours* congested in the body by an *unseasonable year*, *evil diet*, or the like, that then the case differs much from what it is when it is contracted by a *foreign contagion*; and therefore whatever reasons may be alledged in the *last case*, they cannot admit the *Method* as universal: they do apprehend that in the *first case* the *putridity* is *incorporated* and become as it were *innate* to the *mass* of *blood*, and is no more to be eliminated by *Sweat*, then *mustiness* in drink is exterminated by its *working out the yeast*: Besides, they do not perceive that the *sick* receive *such benefit* when *Nature* discharges it self into the *Skin*, by the *Spots*, or *Tokens*, that

that they should *imitate* that operation by promoting sweat: they are afraid that potent sweats may divert Nature from her usual and intended course of discharging it self into the Glandules, and whilest a double evacuation is purposed by the Physician, the Patient may find the benefit of neither, the sweat being so powerful as to disturb that other motion; and the humours in which the venome is incorporated being so gross (why else should Nature never take the more facile and expedite way of the Skin, but the more difficult of the Glandules?) as not to be exonerated in that manner.

Lastly, Supposing the Plague to be a venenate disease they do not conceive that all poysons are to be cured one way, and that by sweat, especially as soon as ever they are taken: much more if they be of a Septic nature: they do not believe sweating to be the remedy for Arsenic, or Lapis infernalis, should any take them. But if it were, yet sometimes there is such a plethoric habit of body, and the veins are so distended either naturally or through the febrile agitation of humours, that 'tis imprudent and dangerous to promote sweat, till Phlebotomy be premised: for thereby the febrile heat will be mitigated, obstructions removed, the blood ventilated and capable of a further rarefaction in order to sweat, and transpiration promoted, and Nature inclined to sweat; for bleeding doth not draw in the humours, or poyson, but carries it out to the circumference, as experience doth testifie, and consequently is rather subser-vient unto, than opposite to the indication that others goupon.

These are the most solid Objections I have met with upon the subject: in which whatever is suggested is not so to be understood, as if the Galenists did not know that their Adversaries use or pretend to use Cor-

dial and *Alexipharmacal Diaphoretick*.: as on the contrary none but this *Baconical* — G. T. would suppose, that when a *Galenist* speaks of *Phlebotomy*, that he intends to use nothing else. Those judicious persons do consider the variety of *Pests*, that some of them are by *forreign contagion*, and seise upon *healthy bodies*: in these they are willing that the *venome* be eliminated presently by *sweat*, except the *Plethoric* habit make it necessary to *bleed first*, and then they *sweat them* afterwards immediately: taking all *imaginable* care for to preserve their strength: they also know that in such times as the *Patients* have been used to an *ill diet*, and debilitated through poverty and misery, that in such cases even *Galen* wou'd not allow *bleeding*: for how requisite soever it may be for the *disease*, such persons cannot bear it: They know that some *Plagues* are attended with *little* or no *Feaver*, yet attended with *symptomes* dangerous and mortal; in these cases they are for *Cordial-Alexipharmacal Diaphoreticks*, and promote *sweat* as earnestly as any *Helmontian*: in others the *Plague* is attended with a *Synochus* and *putrid Feaver*, in these they *divide* their cures, and regard both the *Feaver* and the *pestilential venome*, &c. according as the strength of the *Patient* will bear (they consider not only his *present* but *future* strength) they proceed to *Phlebotomy*: sometimes they observe the *Plague* to be so gentle, that the infected can *go up and down* and feels *little* or no *indisposition* in himself: in this case they only continue the *motion* of *Nature* by mild *Alexipharmaca*, that the *Botch* or *Carbuncle* do not *strike in* again, and perform the rest by a *sollicitous Chirurgery*. In fine, as there is nothing more *rational* than all their *solicitude* in cures: so they know that in so *desperate a disease*, there is no course to be left unattempted: the way by *Alexipharmaca* and *Sudorifics* come from *them*, and is properly *theirs*: but they urge no method generally in any *disease* almost; knowing that

that the same distemper may be cured several ways by men proceeding upon contrary indications, and yet the Art not violated: and in the Plague, as they know the great variety thereof in specie & individuals, so their directions leave us in a great latitude upon emergencies: They understand that saying of Celsus:

Nam quo celerius ejusmodi tempestates corripiunt, eo maturius auxilia, etiam cum quadam temeritate, rapienda sunt. As also that,

Cum eadem omnibus convenire non possint, ferre quos ratio non restituit, temeritas adjuvat.

To conclude, if there be any thing that requires a dexterous Physician, 'tis this disease: And if any thing can make him such, 'tis the diligent reading and understanding of the Galenists; who have in this case transcended themselves, and replenished their discourses with so prudent cautions, such excellent observations, and experiments, that may raise admiration in all that are conversant therein, and satisfy the World, that those rational men, following the ancient Methods of Science, have out-done all that ever the ignorant rash Experimentators of this Age could imagine. I have a long time designed a Collection of all the choice Experimental Writers upon Epidemical diseases, whether pestilential, or not; together with the Histories of diseases that are otherwise of a facile cure, and are changed by the mixture of a pestilential venome: for as there is nothing more dangerous and intricate than such diseases, so there is nothing wherein the generality of Physicians are less acquainted: 'tis an effect of the novelty and curiosity after knick-knacks which infatuates this Generation, and will ruine the next: there is so much of pedantry in reading, 'tis so much more pleasant, and divertive to talk of, to make Observations about freezing, then to read over Galen de typis, that I do not wonder to find D. M. not to understand what the Type of a disease is: but I do wonder how he durst

Hippocrat.
Epidem. l. 6.
sect. 7. cum
notis Vallisii,
p. 7. 8. 739.

C. Celsus me-
dicin. l. 3. c. 7.
de febr. pest.

Id, ibid. c. 9.

say I was intollerably ignorant in the Rudiments of Physick, for speaking as *Galen*, and the best Physicians do: I may accommodate to these impudent Scholiasts that saying of *Hippocrates*. They that are sick, and do not know themselves to be so, have an imbecillity in their Intellectuals. Such men are possessed with a desire to prepare their own Medicaments, contrary to Law: and neglect the study of necessary and useful Books in their Profession, which is contrary to all Reason: 'Tis easie to foresee that the next Age will scarce be furnished with a wise Statesman, Physician, or Civilian; and perhaps scarce yield an accomplished Divine, or an intelligent Sheriffe, or Justice of Peace. And this evil is become remediless, by reason that the contempt of University-learning, and neglect of studying, hath so decayed the Trade of Book-selling, that no man that is desirous can furnish up a Library; which I find too true, being not able to repair the loss of a choice Collection of Physick-books, which were consumed by the fire at London.

De febr. p. 235

Having thus explained the nature of the Pest, I return to the Argument of—*G. T.* which gave occasion thereunto. That the Pest is neither a Feaver nor Sore, nor indeed a Feaver at all, I have demonstrated: That there are some Pests in which Phlebotomy may be used, I have also made evident: As also that it was not without Singular prudence that the excellent and learned Physician Doctor Willis did pronounce that Phlebotomy was seldome, and not without great caution, to be practised in the Pest: because the blood being too much exhausted, and the vessels subsiding, the necessary inclination to transpire and sweat, is not so easie to be promoted, or continued. I have likewise evinced that the Pest doth not consist properly in a Poyson, but in somewhat Analogous thereunto: and consequently since similitudes are not identified,

tified; 'tis foolishly argued by—G. T. that because
 upon the taking of Poyson Phlebotomy is useleß: there-
 fore it is so in the Pest. But neither is the antecedent
 true alwayes; as any man acquainted with the Medi-
 cinal History of Poysons doth know: for although up-
 on the first taking, they are to be attempted with pe-
 culiar Antidotes, yet if afterwards they produce a
 Feaver in the Patient, or if there be danger of it, Phle-
 botomy is both used and allowed, by the Authority of
 Paulus, Avicenna, and Haly-Abbas, and other eminent
 Physicians: particularly by J. Caesar Claudinus in his
Emperica rationalis l. 6. sect. 1. c. 1. It is also perspi-
 cuous out of what I have said, that 'tis false to say that
 All Feavers, be they ill conditioned, or others, have any
 resemblance with, or are to be cured like the Pest: much
 less is it true of most Maladies whatever. Where-
 as this Impertinent goes about to prove it thus: Be-
 cause there is quiddam deleterium in them, or a certain
 venenosity. If he take Quiddam deleterium and a cer-
 tain venenosity for one and the same thing: it is most
 false: shew me the effects thereof such as are visible
 in the Pest, and I may grant there is somewhat Analo-
 gous: but I cannot see any such thing, nor that they
 need any such cure: It is possible—G. T. may
 with his Pepper-drops, or Essence of Ginger, and such
 like hot Medicaments drive out some Pustules in the
 skin, in most Maladies (and even where were none)
 but I shall not conclude thence that either the indispo-
 sition was venenate, or that he did impoyson him,
 though that be a facile thing to do where the same
 person acts the Doctor and Apothecary; and usually
 done heretofore as any School-boy may know out of
 Tacitus: or Tully, pro Cluentio, where two are men-
 tioned, the one the City-Physician, who was called
 Medicus; such were retained by salary, the other is
 termed Pharmacopola circumforaneus, that is a Doctor
 who kept several Markets, making and vending his

Joseph. Mancus
 seu de sec. ve-
 nae cubiti in
 febr. putr. ma-
 lig. p. 141,
 142:

C. Tacit. Ann-
 nal. l. 4. &
 l. xii.

W. C. may
 learn what
 Medicus cir-
 cumforaneus
 is out of
 Menagium's
 Anatomiat.
 jur. civil. c. 35.

own

Lindenbrogii
Codex legum
Antiq. inter
constitut.
Siculus.

own Medicaments, which gave him the opportunity of gratifying Oppianicus his Mother in law: a courtesie the other had oftentimes done for him before: I believe there were no Apothecaries at that time in that place, but in 1220, or 1221. when Physick was first made an University-Faculty, and Doctors thereof created in imitation of those in Theology, then were the Profession of Physick, and that of the Apothecary made distinct, and that with so much caution, that it is a question amongst the Imperial Lawyers, Whether a Physician may have any manner of Contract with An Apothecary, though to drive on other Traffick than that of Pharmacy? In the Lombard-Chronicles there are many cases of Princes, (and no doubt than others) by Physicians: there was one Sedechius in the dayes of Charles surnamed the Bald, in France: and in the reign of Queen Elizabeth one Doctor Lopez, and Giulio. If some mens reading extends not to this knowledge, I would have taught D. M. and W. G. this and much more, had not the Artifice and interest of some men debarred me from publishing it. If any man can shew me any Dispensatory made by any European Physicians (since there was so much as a Graduated Doctor) that was previous to the distinct Profession of Apothecaries, I will own then (though it be a certain untruth) that the practise (I do not say practising) of the Apothecary in the Quartane, was contrary to the rules of Physick, and the case well proposed by D. M. All men are at the mercy of such as write what they will, and defame as they please, and permit not others to vindicate themselves, nor undeceive the World. 'Tis ungenerous to pinnion a mans hands, and then beat him. In reference to that Controversie, I add that the Statutes of the Colledge command the Physicians to send their Bills to an honest Apothecary: And our Laws make the Colledge Judges of all Receipts, as well as Methods of Physick: which

Stat. Colleg.
Londin. Miss.
in biblioth.
Oxon.

As as it conforms with the *general practise* of *Europe*, so it is very *prudential*; for hereby provision is made not only against *noxious Medicaments* (and the *high prizes of Arcana*) but *illegitimate Methods of practise*, by which last it is as *easy* to destroy a man, as by *poison*, and more *privately*: How the deligues of the *Experimentators* will consist with our *Laws*, and be accommodated to *them*, I know not: I know a *Physician* may be *tryed* upon giving his own *Medicaments* if the Patient *miscarry*; how he shall *defend* himself, I know not: I have not seen any *reason* alledged, that is likely to convert the *Magistrates* throughout *Europe* to permit it: or to gain a repeal of the two last *Edicts* in *Denmark* against it: 'Tis an *evil president* to dispute against *wise Laws*: 'tis worse to *act* against *them*: and what consequences it will bring upon the Land, to see one *Profession* retrench upon another, let the *Lawyers* judge: The beginner of this *Novelty*, the Lord *Bacon*, stopped not at *Natural Philosophy*, but carried on his *humour* to attempt or *project* a change of our *Laws*. I do recommend it to the consideration of our *Sages* in the Law, that if *Physick*, *Divinity* and other *Faculties* be overthrown by a company of *Wits*, whether it be *probable* that *they* shall long continue free from the attempts of the *Omniscient*——

But I shall resume the examination of the remaining *Arguments* of my *Adversary*.

“ Because I often observe many *squaring* their
 ‘ *Therapeutic* intentions according to the *Definition* of
 ‘ the *Feaver*, endeavouring to cool those that are in a
 ‘ scorching heat, by breathing a vein,
 ‘ let them know, that a *Feaver*, whose
 ‘ *essential nature* is to be inquired into
 ‘ for the *use of man*, is very errone-
 ‘ ously defined an *Accident*: for a

Cannot an *Accident* be the product of
 a *fore-going cause*? Besides, whoever
 defined a *Feaver* so as to make its *Genus*
 to be An *Accident*?

‘ *f. brile*

‘ febrile heat is certainly the product of a foregoing
 ‘ Cause which is *primarily* to be searched after, then
 ‘ whatsoever depends thereon will quickly va-
 ‘ nish.

‘ Now this cutting an hole in *venal* vessels for the
 ‘ removing a bare Quality, is all one as if one should
 ‘ lave out of the Pot ready to boil over a *spiritous*, or
 ‘ some *precious Liquor* therein contained, to the intent
 ‘ it may thereby be quailed, neglecting to withdraw
 ‘ the fire, the *impulsive occasion* of the violent motion
 ‘ made therein. Do not they take the like absurd
 ‘ course, who do think to cool the body in a *Feaver* by
 ‘ throwing away whole Porringers of the *Nectar of*
 ‘ life, never looking after the ablation of the *Causo-*
 ‘ *poietick* cause and *focular* matter: sited about the
 ‘ *Stomach*, which makes an *estuation* and *efferve-*
 ‘ *scence* in all the other parts. That way of *frigidati-*
 ‘ *on* which pillageth the vitals, increasing the malady,
 ‘ only obliquely abating a tedious quality, is never to
 ‘ be approved by a Legitimate *Physitian*. He that
 ‘ will bring to a moderation the *finger* excessively heat-
 ‘ ed from a thorn impacted therein, must extract the
 ‘ same, otherwise he will take a wrong course by the use
 ‘ of meer *frigesactives*. So he that will *positively re-*
 ‘ *frigerate* in any preternatural heat, must eliminate that
 ‘ *spinous, aculeate, acid, acrid* matter which goads the
 ‘ *Archæus*, incensing it that it becomes exorbitant, fret-
 ‘ ting, raging, *Heautontimorumenos*, gauling it self at
 ‘ the presence of that which it abominates, never to be
 ‘ pacified till it be excluded, or some extraordinary
 ‘ *Sedative* given (I mean not *Opium* vulgarly prepa-
 ‘ red) which may for a time assuage its fury till it
 ‘ have leisure to thrust out the unwelcome guest.

I could wish my *Adversary*, instead of consulting
 the *Novum Organum* of the Lord Bacon, had been con-
 versant in that more ancient one of Aristotle: he had
 not

not then committed so many errors in point of *Ratiocination*, as he now does, which renders his discourse intricate, confused, and oftentimes impertinent, to the great distraction of his Reader, and vexation of his Antagonist. He perpetually mistakes through an *Ignorantio Elenchi*: he never apprehends what he opposeth. That the Galenists do define a Feaver by a preternatural heat diffused through the whole body, is true: They are contented to call that a Feaver, which the vulgar does so, and accordingly to define it: Not but they distinguish in Feavers the Material and Formal cause thereof; as also the several *Efficients* thereof: and in their Method of curing, except necessity put them upon another procedure, they do alwayes, and are obliged to do so by the Rules of their Art, to remove the Cause of the Feaver: and this is notorious to all that understand the first Elements of Physick. They consider the evident, occasional procatactick Causes: they consider the Antecedent causes, which though they are not the immediate and conjunct Causes of the Feaver, yet dispose unto it; and are of such importance as that they may often degenerate into immediate and conjunct Causes: and, which is more, in the Cure they do not only regard the Cause which gave birth unto, and produced the Disease, but that which doth foment and continue it, and that which may produce or increase it. *Censeri debet causa non quæ facit, aut fecit solum, sed & quæ faciet nisi quis obstet.* And although the curing of the Disease, or Feaver, be the object of their designs: yet as all wise men consider by what means the ends they propose to themselves may be effected, so do they deliberate how they shall effect their designs: and that is by removing the Cause of the Malady: But as in other designs it frequently happens, so here they often meet with impediments, which must be removed, before they can prosecute their intentions by direct means. Upon this account they are forced upon ma-

Valles. meth.
med. l 3. c. 1.

ny actions which they confess are not immediately conducive to the cure of a Fever, which yet they pursue, because without doing so, the indisposition either could not be cured, or not with such safety as becomes prudent persons. Few of them ever bleed that I know of merely for refrigeration, and the extirpation of the formal heat, without regard to the material cause of it, which is to be concocted and ejected by Nature. Though Phlebotomy be but one operation, yet it produceth sundry effects in the body, and in order to each of them is both indicated, and practised: For it evacuateth that redundancy of blood, which frequently occasioneth diseases, alwayes is apt to degenerate into a vitious morbidick matter during the Fever, and by an indirect and exorbitant motion to afflict some or other principal parts to the great danger, if not destruction of the Patient: upon this account we do use Phlebotomy in Fevers sometimes to diminish the Plethora, and so to prevent the violence of the succeeding disease, and dangerous symptoms that may insue; and then the veins are too much distended, to facilitate and secure the operation of subsequent Medicines that are used to evacuate the Antecedent Cause, and to mature and expedite the continent morbidick cause: Besides, it promotes transpiration incredibly, gives a new motion to those humours which together with the blood oppress and indanger the internal and principal parts, it diverts them from the head, and draws them from the heart, lungs, stomach and bowels into the habit of the body, whereby Nature being alleviated prosecutes her recovery by maturation and expulsion of the peccant depraved matter, deducing to its proper state that which is semi-putrid, and not irrecoverably vitiated, and separating first, then exterminating what is incorrigible: So the Patient recovers. Nor is there any thing more true than this, which every Practitioner may daily observe in his practise, that Of all the

the Medicaments which are used by Physicians, there is not any may compare for its efficacy and utility with Phlebotomy: so expedite, so facile, and so universal is it. The universality of its use appears herein, that it evacuates the redundant, it alters the exorbitant fluxes of the peccant or deviating humours and blood: It relaxeth the vessels and pores of the body, and refrigerates the habit thereof: And therefore is so absolutely necessary in putrid Fevers, that though I do not say they are incurable without it, yet I pity the languishing condition of such as omit it, the violence of the symptoms being increased thereby, and the cure procrastinated, to the great trouble and hazard of the sick, and his great detriment afterwards; for you shall ordinarily meet with a slow convalescence, and the blood be so depraved by so long and violent an effervescence, that it becomes remediless, and degenerates into an evil habit of body, Scorbutic, Dropsie, &c.

Valles. Meth.
med. l. 4. c. 2.

This being premised, (which is more clearly proved by Experience than Reason) I answer to his Argument, that we do not go about only to refrigerate the Patient, but to concoct and eject the morbidick matter: that we take the most besitting course to exterminate that spinous offensive cause: and as upon the prick of a Thorn, if part stick in the wound, and be buried therein, we proceed to maturate and bring to a paculency the vitiated blood and humours inherent in the part affected, and with the suppurated matter draw out the fragment of the Thorn; so we do in Fevers, (where the depraved humours are not so easily separated and extirpated, as in the prick of a Thorn) maturate and eject the morbidick cause, and thereby achieve the Cure: And I do profess my self to concur with the Ancients in their Opinion, that there is a

Id autem ita esse aperte
intelliges, considerans, quæ
partibus, in quibus suppu-
rationem molimur, con-
tingunt. Ea enim altera-
tio simillimæ est concoctio-
ni, quam in materia putri-
darum febrium expecta-
mus, nisi omnino est eadem.
Felles. Method. med. l. 4.
c. 2.

Galen. meth.
medend. l. 9.

great *Analogy* betwixt the generation of the *Hypostasis* in the *Urine* after a *Feaver*, and the production of *purulent matter* in an *Apostimation*; and that *Feavers* are but a kind of *Abscesse* in the *mass of blood*: for the proof whereof I do remit my Reader to *Ballonius, de Hypostasi Urinarum*. Amongst the *Ancients* I find two wayes commonly practised to extinguish this *Febrile Heat*, by a course corresponding with the usual

wayes of *extinguishing a fire*; which are *ex pueror*, by subtracting the *fuel* from it: thus they did *Phlebotomise* at once till the Patient did swoone: the other *ex pueror*, by *quenching it*: thus they gave them cold *Water* to drink largely, until the sick grew pale and fell into a *shivering*: this last was not practised till there were *manifest signs of concoction*: But 'tis observable that upon either of these *Medicaments*, they did expect that *happy issue*, that Nature thereupon should presently discharge it self by *sundry evacuations* of the *morbifick matter*: so that they did not thereby intend bare *resignation*, but the *extermination* of the *concocted febrile matter*.

And thus much may suffice in answer to this *Objection*.

The last *Objection* he makes is this, as I shall form it.

“ The great *Indications* of the *Galenists* for *Phlebotomy*, are either *Evacuation* of the *redundant blood* in a *Plethora*: or, the *Revulsion* and direct pulling back of what is in *flux*, or *flowed* into any part already.

“ But neither of these *Indications* are *valid*, and oblige them to that *practise*:

Therefore

“ Therefore the practise of *Phlebotomy* is not to be continued,

As to *Phlebotomy* in a *Plethorick* body, he thus explodes that: “ It by *plenitude* be meant an excess of pure blood, I absolutely deny there is any such *Συμπαρεν*, or indication for *Phlebotomy*: for during the goodness of this *juyce* there must needs be perfect *Sanity* arising from integrity of all the actions of the body, so that it may justly be reputed *madness* to go about to broach this Balsome of life, weakning Nature thereby, as long as there is health with abundance of strength. *Imprimis notandum* (saith *Van Helmont* in cap. de febr. p. 8.) *ut nunquam vires. peccare possint abundantia, ne quidam in Methusalem: ita nec bonis sanguis peccat minuitate, eo quod vires vitales & sanguis sint correlativa.* i. e. We are to take special notice that too much strength can never be offensive to any, yea, not to *Methusalem*; no more can any one have too much blood, for as much as *vital strength* and *blood* are *correlatives*. Well then it is plain, that whatsoever sickness seems to indicate *Phlebotomy* upon the account of an *ἀναιμία*, *sanguineous super-pletion*, must needs come from an *apostate juyce* generated by vitious digestions, which being hostile to life irritates the *Archæus* to frame the *Idea* of a disease, not as it is merely provoked by *nimiety* or *plurality*, but from the *pravity* of the matter: wherefore the case is altered now, and the *signis*, signification or demonstration of *evacuating*, doth in a strait line respect the *Cruor*, or *Cacochymy*, directing the *Artist* to reform, mundifie, and rid those impurities contained in the seemingly corrupted marred *juyce*, by proper means sequencing the *vile* from the *precious*, not to let

I would willingly know how this *Archæus* doth frame the *Idea* of a disease? and what this *Idea* of a *Feaver* is? to return—G. T. his own words: Is it a *Substance*, or an *accident*? *Material* or *Immaterial*? That it specifies the disease, must be granted: But the notion is incomprehensible: and this *Scurvy Idea* is more ridiculous than the *Scurvy Qualities*.

out

out indistinctly what comes next at randome to the
furtive castration of the Eutony, lustiness, liveliness,
and strength of the Patient, which is to be preferred
before all motives whatsoever.

The Analysis
& Synthesis of
inanimate bo-
dies, doth not
teach the
Operatour
convincingly
what may be
done in those
that are Ani-
mate.

P. 124.
How much
blood doth he
account to be
a great Quan-
tity? I do not
know of any
Physician that
takes away
such great
Quantities, as
to create
these dangers.
Can you make
good by pra-
ctise, that
Phlebotomy is
the cause of
these subse-
quent evils.

'Tis certainly known to those who are through-
ly versed in the *Analysis* and *Synthesis* of the parts of
bodies, that *ebullition, astuation, effervescence* of fe-
brile liquors arising from a *pleonasm* of degenerate
Sal. and Sul. &c. as they would have it, may be ap-
peased and allayed by *Remedies* assisting the vitals to
make separation, and afterwards an exclusion every
way of what is reprobate, reserving what is accepta-
ble. This being performed, there is no fear that a
plenitude simply of it self can do any harm, for here-
by so expedite a course is taken, that the *overplus* is in
a short time sent packing away by *vomiting, stool,*
urine, expectoration and *sweat*: For this reason, con-
sidering what *strict abstinence* the Patient is put up-
on in a *Feaver*, 'tis very unlikely a *plenitude* should be
of any *duration*. Is it not then greater *prudence* in a
Physician to minorate what is superfluous by *safe,*
profitable wayes of *secretion, and excretion*, still ad-
vancing the *principal Agent*, then for *that end* to give
vent *indiscreetly* to what comes next without any
election, incommodating, if not hazarding the loss of
the *vital principles*. For believe it, *whosoever hath*
any great quantity of blood taken from him, either rues
it for the present, or hereafter: Let him that is *hetero-*
dox prate what he will, alledging examples of those
sturdy, lusty bodies, which have hereby received *im-*
mediate succour; I can make good by *practise* (and
challenge any one to come to that; otherwise let him
forbear his *Garrulity*) *whosoever* is cured by a *Lan-*
cet in this sort, is either prone to *relapses*, or to live
more crazy in his younger or elder years; although
for some short time he may not by reason of a robust
ingrafted constitution be sensible of these inconveni-
ences.

As

As for *Phlebotomy* in order to *Revulsion*, he thus explains it. "Another pretended way for *sanguiniffication* is *Revulsion*, by which they say a violent flux of *morbisick liquor* into any noble parts, is intercepted: for this end they use the *Lancet* in a *Pleurisie*, *Peripneumony*, or any inward inflammation: But how far they erre herein, is well known to the best Practitioners: for although I confess they do sometimes in the beginning suppress, and as it were crush the aforesaid diseases, yet is it done *accidentally*, very *uncertainly*, rather by way of distraction of the Nature for the loss of its substantial treasure, than from any true *Revulsion* or direct pulling back of what is in flux, or already flowed in. 'Tis true, where the vessels are depleted, a *repletion* is forthwith made *obfugam vacui*, to avoid a *vacuity*, but the supply is from what comes next: for as *intro* as well as *intro foras*. However there is no streight immediate *Revulsion* intended from the part affected to the *Orifice*.

It seems strange to me that any man should pretend thus long to have diligently attended on the practice of *Physick*, and yet never have seen, or have the impudence to deny that there can be any such thing as a *surcharge of Blood*, which is that which *Physicians* call a *Plethora* or *Plenitude*. But the continuance of these *Baconical Philosophers* will in time free us from any admiration of this kind. In *Greece*, when the *Athletes* or *Wrestlers* were publickly maintained, the observation indeed was more facile than now, but every Country almost yields frequent cases of such an indisposition: particularly 'tis easily to be remarked in strong, healthy and *plethorick* Children, whose sudden death, is it often arising from no other cause, so it astonisheth the vulgar, and usually raiseth in them suspicions of *Witchcraft*. *Hippocrates* and *Galen* having taken notice of the

Hippocr. sect. 1.
aph. 3.

Plato de re-
pub. l. 3.

Galen in ex-
hortat. ad bo-
nas artes
discend.

C. Celsus Me-
dicin. l. i. c. i.

the evil consequences attending this habit of body, do advise the owner to attempt the change of it, though it be accompanied with the most perfect health and vigour imaginable. *Ἐν τῇσι γυμναστικαῖσι αἱ ἐπ' ἀνδρῶν εὐεχία σφαι-
ροῖ, οὗ ἐν τῇ ἐξάτη ἐσσιν. ἡ δὲ δύναμις μὲν ἐν τῇ αὐτῇ, ὅτε ἀνέμ-
ει. ἡ δὲ ἡ ἀνέμεισιν, ἡ ἐν δυνάμει ἐπὶ τὸ βέλπον ἐμπεδύται, ἀνέμει
ἐν ἐπὶ τὸ χεῖρον. τῶν δὲ αὐτῶν τῶν εὐεχίῶν ἡ δὲ εὐμείρε μὴ βελύται.*

And this habit of body, and fulness of blood, which he saith would do *Methusalem* no harm, is observed by those who had daily opportunity to see the sad experience of it, to abbreviate the life, and occasion many diseases, as *Apoplexies*, *Cardiacal Syncofes*, and *Ruptures of veins in the Lungs*, *Squinancies*, *Pleurisies*, &c. So that *Hippocrates* condemns that habit of body again in his book *De Alimento*: and *Celsus* concurs with him therein. *Ea corpora, quæ more eorum [Athletarum] repleta sunt, celerrime & senescunt & agrotant. i. e.* Those bodies which are dieted and brought up to an *Athletick* habit, do soonest of all decline into sickness and premature old age. I never read of any *Physician*, who in his directions for health recommended unto his Patient that course of life wherein the *Athletæ* were bred up, thereby to acquire such a *Plethoric* habit: and whatever the present sanity were which they enjoyed as to strength of body, their intellectuals were very dull; and the most understanding persons would have thought it prudential in such a case to broach some of the *Balsome* of life, and weaken Nature thereby, rather than to live in a perpetual danger of such perilous diseases as that *Euexy* subjecteth men unto: But our *Helmontian* doth think otherwise.

If such an habit of body be thus perillous during perfect health, how ought a *Physician* to apprehend it upon the first approaches of sickness? Doth not then Nature add to the redundance of blood by a defective transpiration; whereas the veins are so full as not to be able to contain more? Is not the pulse weak, slow, and oppressed,

oppressed, and the Heart so debilitated as not to be able to discharge it self of the Blood which flows into it, and in danger to stagnate in the Lungs, or coagulate in the Ventricles? Can there seem any thing more agreeable to common reason in this case, than to practise Phlebotomy, whereby Nature is at present alleviated, the surcharge of blood abated, and the imminent dangers prevented? Is it not prudential, were a little blood so precious a thing, and the loss thereof attended with some small irreparable debility? Is it not, I say, a part of prudence, to submit to lesser (though certain) inconveniences, then to run an almost inevitable hazard of the greatest imaginable? I read not that the famous Milo arrived to the years of Methusalem, nor yet to those of Hippocrates: though I am apt to think he was so solicitous for to preserve his strength in its vigour, as not to have been much Phlebotomized: At the Olympic Games being Victor, and going to receive the Garland from the judges, he fell down dead suddenly, and was thence carried to his Grave. It is to be supposed, according to our Helmontian, that in that Euxy of body, something so virulent or odious put the Archæus into such a fury that it ran mad and destroyed him: whereas had it been sublimate or Arsenic, it would not have been half so exasperated, or hasty. 'Tis a most humour some and senseless Kitchen-boy, that no man knows how to please: Suppose that the Brain might be in him a little oppressed with a Vertigo, or some petty disorder, must this capricious Duumvirate immediately produce the Idea of no gentler a disease than an Apoplexy, or Epilepsy? But to pass from these phantastic causes, the allegation whereof least becomes an Experimental Philosopher, I shall instance in the effects of Bleeding in a Plethora.

Æt. m. var.
Hisor. l. 9.
c. 31.

Anton. Benivenius Medicinal. observat. c. 69.

Men commonly attribute much to the Pulse in the discovery of diseases: If that be weak, low and small, they frequently preface death or mortal dangers: if it be full and strong, they give hopes or assurance of recovery. Yet we meet with one Philip, a drunken and corpulent fellow, who lying sick in his bed, I found his Pulse so weak, that it was scarce perceivable, and I should have thought him near death, had not the high colour of his face, the fulness of his veins, and his eyes ready to start out, together with the setting of his teeth, all proceeding from redundancy of blood, hindered me from passing such a Prognostick. Upon due examination of circumstances, I concluded the whole distemper to arise from a Plenitude and that there was no such effectual remedy for him as speedy Phlebotomy: His friends were much against it, apprehending that the weakness of his condition was such, that it would rather hasten his death, than cure him: but at last they did assent thereunto, and I caused him to be let blood. And immediately he recovered, the decay of his strength and malady not being more sudden, then was his recovery.

This observation of Bonivenius is confirmed by the like accidents and resembling cures, which had fallen under the observation of Dodonæus, as he relates there in his Annotations; particularly he sayes, "Adfui & ego olim homini ebrioso, qui cum ad tantam plenitudinem venisset, ut quodammodo strangulari videretur, etiam mutus factus fuit. Huic vero & sanguis largiter detractus e communi dextri brachii vena, mox loquelam & sanitatem restituit."

It

It were endless to transcribe cases of this nature: nor do I believe that there is any understanding Practitioner who will deny that 'tis possible for an excess of blood to become prejudicial to a man. I proceed against our *Helmontian*: He sayes, " that nimiety or plurality doth not offend in such cases, but the pravity: and that the pravity is to be cured by proper means sequestering the vile from the precious, and afterwards excluding it by vomit, stool, urine, sweat, and expectoration. — I answer, that the case here being put concerning persons that are *Plethorical*, and that *Quoad vasa*, when the vessels are so full that Nature languisheth under the burthen, and is not able to discharge even the vital operations, by reason of its excess: though the Blood may have some mixture of depraved humours, and though they may have occasioned that ebullition or irregular motion of the blood, yet is not the disease ordinarily to be cured without *Phlebotomy*: I will not deny but that such cases may be alledged, as the Patients may have recovered out of those kinds of distempers, not only without *Phlebotomy*, but without any help at all.

I am willing to grant that the *Diatritarii*, or *Aegyptians* (who were prohibited by Law to administer any manner of Medicament till after three dayes were passed) that many did recover under their hands: though I believe that in *Apoplexies* and *Squinancies* multitudes must have miscarried: Had not *Erasistratus* done great Cures, his fame had never equalled that of *Hippocrates*: So *Petron* was a man of renown, yet perhaps what *Celsus* avoweth of the last, may be fixed upon them all. *Plures, si protinus a principiis excepit, interemit.* Thus much I am willing to grant, when judicious men are the Physicians, and instead of one Medicament do substitute another. But what *Asclepiades* or *Erasistratus* might do in their dayes (when fastings, bathings, oylings, and the like were the so

N 2

much

Aristot. polit.
l. 3. c. 2.

Galen. adv.
Erasistratum
c. 4.

C. Celsus Me-
dicin. l. 3. c. 9.

Asclepiades
was he that
first professed
to cure cito,
tuto, jucunde.
C. Cels. l. 3. c. 4.

Fere, quos ra-
tio non ressi-
tuit, temeri-
tas adjuvat.
C. Celsus Me-
dic. 13. c. 9.

Forrest. obs. 1. 1.
obs. 3. in
Scholio.

Forrest. obs.
1. 1. obs. 12, 13.

much the vulgar practice in health, that Patients wil-
lingly submitted thereunto in sickness) I cannot be-
lieve that an ignorant Helmontian, or other cheating
Chymist, or illiterate Experimentator of this Age can
do. Physick is a **PROFESSIO** where-
in we commonly see Miracles, the events of
diseases being such, that Nature oftentimes
transcends our Art, and Imagination: And
sundry unexpected Medicaments (undoubtedly
rash) do effect Cures that the most rational and
Methodical procedures have failed in. Noth-
withstanding all this, I do not see that we ought to
presume upon monstrosities; or regulate our
practice by such contingent Cures: And I scarce
believe that any discreet person would either put his
life upon such an adventure, or take it well from us
should we either relinquish or perswade him thereunto.
I say then, that in a Plethorick body, suppose we that
it is an Ephemera, or Synochus imputris, 'tis well done of
the Physician to bleed the Patient, least those Feavers
(which we confess, even without Phlebotomy, to be
safe) least the Diary feaver should degenerate through
some secret indisposition of the Patients body, or some
error committed by him, into an Heftick or putrid Fea-
ver: *Non est tamen negligenda hæc febris Ephemera
quamvis velocis & bonæ terminationis sit, cum soleat
propagines malas gignere, & in alias febres transmutari:
& licet cito terminetur, non tamen inter morbos acutos
reponenda: quia caret malis accidentibus. Si error con-
tingat in curatione vel per medicum imperitum, vel egro-
tum periculum est ne in Hefticam transeat, si biliosa fue-
rit temperatura, qui egrotat: In aliis vero in putridam.*
This is confirmed by many observations, and allowed of
as true by Physicians: No less true is it that a Synochus
simplex changes into a putrid Feaver, and Squinancies:
as Forrestus, and Experience demonstrates. As for dis-
eases accompanied by, or occasioned from a particular
conflux

conflux of blood (though some humours also be depraved) unto any part, as Apoplexies, Squinancies, &c. for any man to think that such distempers can be cured without Phlebotomy, is direct madness: for all other evacuations (by emeto-cathartics; which every body cannot endure, nor is the Apoplectick in a condition to swallow) or stool, urine, or sweat, and expectoration, are either useless, or too tedious to depend upon in such indispositions. Neither is that to any purpose which this Baconical Impostor saith, that after such a strict abstinence as the Patient is put upon in a Fever, it is very unlikely a plenitude should be of any duration. For if the Fever be such as is accompanied with a particular defluxion upon any principal part, the effects of that abstinence will signifie nothing: for the party will dye (in all probability) before he can reap any benefit by such abstinence: no benefit accrues by abstinence, but after some time: whereas the malady permits no delay. It is notorious that suppuration is not the effect of a few hours: and that pain doth attract (explain the notion how you will, the Phenomenon is manifest) so that 'tis not to be conceived how so acute a disease should admit of a lingering cure. The residue doth not need any answer: for to say that whosoever looseth any blood doth rue it first or last, is a matter as easily denied by an intelligent Physician, as it is avowed by one that it is not so: If a prudent man advise it, there is not any danger (abstracting from casualties) if the Patient and those about him do their duty. These last circumstances are such that Hippocrates placed them in the first of his Aphorismes. $\Delta\epsilon\iota\ \delta\epsilon\ \mu\acute{o}\nu\omicron\nu\ \epsilon\upsilon\sigma\tau\acute{o}\nu\ \pi\alpha\rho\epsilon\chi\epsilon\iota\ \tau\acute{\alpha}\ \delta\epsilon\omicron\upsilon\tau\alpha\ \pi\acute{o}\tau\epsilon\iota\tau\alpha\ ,\ \alpha\lambda\lambda\alpha\ \kappa\acute{\iota}\ \tau\omicron\upsilon\ \nu\alpha\sigma\epsilon\iota\tau\alpha\ ,\ \kappa\acute{\iota}\ \tau\acute{\alpha}\ \pi\alpha\rho\epsilon\chi\epsilon\iota\tau\alpha\ ,\ \kappa\acute{\iota}\ \tau\acute{\alpha}\ \epsilon\chi\theta\epsilon\iota\tau\alpha\ .$ It is not impossible but that a Patient may be so debilitated with his malady, and the means used for his recovery, that he conti-

Si omnia membra vehementer resoluta sunt (in apoplexia) sanguinis distractio vel occidit, vel liberat. Aliud curationis genus vix unquam sanitatem restituit: saepe mortem tantum differt. C. Celsus Medicin. l. 3. c. 27.

Itaque mittitur, non quia multa subest copia, sed quia ea quae subest, tunc est inutilis & noxia. Volles. Method, med. l. 2. c. 3.

nue

Potest autem
id, dum solum
est, non mo-
vere, quod
iunctum aliis
maxime mo-
vet. G. Celsus
l. i. in præf.

nue afterwards *infirm* : if he refuse thereupon to take that *Analeptick* Physick in order to a perfect *convalescence*, whatever ensues is neither the default of the *Doctor*, nor the evil consequence of *Phlebotomy* : The same I may say in case either the sick party be not *tractable*, or those about him *malapert* or *negligent*, or some extraordinary *casualty* do fall out. For where many concurrent causes are requisite to the producing of an effect, if it succeed not, we are not to blame what did operate, but what failed.

As to *Rebulsion* that which he saith is very weak : — *G. T.* avers that the best *Practitioners* take it for an *Errour* : 'Tis no great *vanity* to pretend to know more than a *Baconical* *Philosopher* : I do say, that no experienced *Physician* ever denied the operation though since the *tenet* of the *Circulation* of the *Blood* the manner how such an effect doth succeed admits of some dispute, and is obscure. We the silly followers of *Galen* and the *Ancients* do think it an *imbecillity* of judgment, for any to desert an experienced *practise*, because he doth not comprehend in what manner it is effected. In *eruptions* of blood and *Catarrhs* every one sees the thing is done : and that the *Fuga vacui* is not the occasion of the subsequent blood flowing to the orifice of the vein, I believe those to whom he dedicated his Book will assure him. How perfect our Cures are continual trials demonstrate : How little confidence there is to be placed in the Brags of — *G. T.* after his ten years *practise*, any man may determine by taking a due estimate of his *Ignorance*.

Having thus examined all his Arguments against *Phlebotomy*, I come now to give our *Reasons* for it : But before I proceed to them, it is necessary that I give my Reader some account of,

The quantity of Blood in humane bodies.
 The several Qualities of the aforesaid
 Blood.
 The manner of its Generation.

As to the *Quantity of Blood* that is to be found in *Humane bodies*, *Gassendus* holds that the *utmost* thereof exceeds not *five pounds*: but he is justly reprov'd for that *error* (and for intermeddling with *Medicinal debates*) by *Riolanus*; who avows, that in *suffocating diseases* he had taken away much more than that within the space of *twelve hours*, without indangering the *Patients life*. To relinquish therefore these *impertinent Naturalists* (whose discourses in *Physick* have done more *hurt* than good; being accommodated generally to some *prejudicate Hypothesis* they take up, or founded upon a *narrow experience*) let us see what *Artists* teach us, *Avicenna* and several of the *Arabians* do hold, that there are *ordinarily* in a man *twenty five pounds of blood*, and that a man may bleed at the nose *twenty pounds*, and not *dye*: but if the flux exceed that, after the loss of *twenty five pounds* he dies inevitably. *Mæbius* doth allow of *twenty four pounds* to be the *usual quantity*: *Homo stature decentis ad libras xxiv. sanguinis in corpore habet.* *Riolanus* imagines there may be in such a person *fifteen or sixteen pound*, at most but *twenty*, in a *French man*, though in a *German*, he says, *Plempius* supposed there might be *thirty*. In an *healthy sanguine person*, being in the prime of his years, *Marquardus Slegelius* doth so calculate the matter, that he concludes there cannot be above *twenty or eighteen pounds*; and that the *generality of men* contain but *fifteen*. *Doctor Lower* in his excellent *Treatise Of the Heart*, doubts whether any man hath *twenty five pounds of blood* in his body: and says, that according to *Anatomists*, the *quantity* seldom exceeds *twenty four pounds*, or is less than *fifteen*.

Perhaps

*I. Riola. opuscul.
 Anat. nova, in
 rot. adv. Gaf-
 send p. 174.*

*Alex. Massaria
 de febr. c. 9.
 Io. Riola. En-
 chirid. Ana-
 tom. l. 2. c. 27.*

*Mæbius fund.
 med. c. 11.
 sect. 18.*

*Riolan. de
 circulat sang.
 (in Antropo-
 graph.) c. 15.
 p. 585.*

*M. Slegelius
 de sangu. mo-
 tu. c. 13. p. 104.*

*Dr. Lower de
 Corde. c. 3.
 p. 115, 116.*

Perhaps the consideration of such *fluxes of blood* as spontaneously happen may give some light unto the controversy, and contribute most to the decision of the grand one, concerning the prejudice that may arise from the loss of Blood by Phlebotomy. It is recorded by *Marth. de Gradi*, that he had under his cure a lean, slender and seemingly Phlegmatic Nun, which by the Nose, Mouth and Urine did void at least eighteen pound of blood; and yet there remained so much in her, that upon the application of Cupping-glasses, they were instantly filled with Blood: and he recovered her notwithstanding that loss of blood. *Brassavolus* relates how he had in cure one *Diana* a Lady of the House of Este, which bled so much at the Nose, that he saved and weighed eighteen pounds, besides what was lost in the clothes applied to her: so that the whole quantity might amount to twenty two pounds. He recovered her by the use of several Remedies, one whereof was Phlebotomy. *Marcellus Donatus* doth avow, that he weighed eighteen pounds of blood which issued from the Nose of a certain Cook of the Cardinal *Gonzaga's*; who was recovered to as perfect health and as good an habit of body, as he ever enjoyed before. *Amatus Lusitanus* gives an account of one in a *Quartane*, which bled at the Nose within five dayes twenty pounds: and of another who bled in like manner, within the space of six dayes forty pounds: whom yet he cured by Phlebotomy. *Montanus* saith he cured one of the *Emenorrhoids*, which bled every day for forty five dayes, two pounds of blood, and more. *Arculanus* doth tell of one Woman that avoided by the Womb in three dayes twenty five pounds of blood, and yet recovered. *Almericus Blondelus* cured in a very short space a Souldier who was wounded under the right Arm-pit unto the Lungs: after the man had lain without sense or motion many hours, on a sudden there issued an incredible quantity of blood out of his mouth. The like incredible

Schenck. Obs.
med. l. 1. p. 172

Ant. Musa
Brassavolus
comment. ad
Aphor. 23. l. 5.

Marcell. Donatus
de vario.
lis. c. 23.

Amat. Lusit.
curat. 100.
cent. 2. & cur.
60. cent. 7.

Schenck. Obs.
med. l. 3. p. 312

Schenck. Obs.
Medic. l. 4.
p. 614.

Almor. Blondelus
de venæ
sectione, c. 2.
p. 30.

dible fluxes of blood, in men and women, he professeth to have observed many times. *Forrestus* relates how a Gentleman that was his Patient did bleed at the nose in three dayes time, about twelve pounds of blood: and was recovered as well as ever. And when *William Prince of Orange* was wounded in the throat by an *Assassine*, he bled at the *Jugulars* before the flux could be stopped (which was not done in several dayes) twelve pounds of blood: and was perfectly recovered to his strength again. He also tells of another Gentleman, that having drunk *Wine-must*, fell into such an *Hæmorrhagy* at the nose, that he bled without intermission six pounds; and was cured by *Phlebotomy*, and other besitting Medicaments. *Massarius* did see a young Lady of twelve year old, which avoided at the nose about twelve pounds of blood: but fell afterwards into a *Cachexy*. To conclude, in the words of *Jo. Riolanus*: Imo decem vel duodecim libras per nares, vel hæmorrhoidas, per uterum in mulieribus effundi intra sex octove horas sine vitæ detrimento quotidie observamus.

Forrest. Obs. Medic. l. 1. c. 14. cum Scholio.

Id. ibid. Obs. 12.

Alex. Massari- as de febr. c. 29.

I. Riolan. inter opusc. nova Anat. adv. Gassendum. p. 108.

As to the Quality of the Blood, it is observable, that there is a great variety in the colour and consistence thereof, even in men of perfect health: many upon *phlebotomy* convince us that their blood is seemingly bad, whereas they are not molested with any distemper at all, but enjoy as entire a sanity, and are as free from diseases as those whose blood is to appearance better. I have elsewhere given an account of several Phenomena to be remarked upon the burning of Blood: which Observations are the more considerable, in that *J. J. Becherus* hath published a great mistake about it: viz. *Siccum sanguinem in igne ut lardum flagrare, & absumi, non minori celeritate quam ipsum oilum & vini spiritus; & in hoc quidem balsamino spiritu & igne, totius sanguinis vis & bonitas consistit, quoque corrupto*

I. J. Becherus Physic. sub. terran. l. 1. sect. 5. c. 1. p. 303.

corrupto aut alterato, totius ejus crasis alteratur. But I say that it is not requisite the blood of every healthy person should burn so: and 'tis evident by those Experiments of mine, that there is a very great diversity betwixt the blood of several persons, as to inflammability; and I know a most fair Lady, whose blood will not burn at all, only crackles, that enjoys a constant health beyond most of the sex, excepting a pain at her stomach: and I have observed that to be an usual consequent to such blood. I shall not illustrate this matter at present by demonstrating the great discrepancies of the blood in several healthy persons, by mixing it with sundry liquors, wherein the diversity of Phenomena doth manifest the great variety thereof. It is observed by many Practitioners, that in healthy persons such blood doth often appear upon Phlebotomy, as to the Eye seems bad. I have seen many (saith Blondelus) who being casually hurt in the Eye by a tennis-ball, or by some other accident wounded and bruised, have been let blood; and the blood which issued out seemed corrupt: yet have not these persons had any thing of a Fever on them, nor been some of them sick of twenty years before. And Ballonius observed in several Ladies that out of humour rather than any indisposition were let blood in May, and six or seven poringers taken from them, that their blood was very putrid. And he avows that in the most fair Ladies there generally is found such blood as looks impure and evil: yet that such persons enjoy a greater, or at least as perfect an health, and live as long as any that have a better-coloured blood. It is granted by Slegelius, that oftentimes upon Phlebotomy the blood which issueth forth may seem impure, and yet the Patient be healthy. *Nonnunquam satis insignis impuritas inest sanguini, ex cava educto, nullis gravioribus symptomatibus homini molestis, ex quo patet non tantum semper periculum imminere, si nonnullae sordes sanguini admisceantur.* I shall repeat here again the strange blood.

Almericus
Blondelus
de venæ se-
ctione. c. 1.
p. 3.

Ballonius Epi-
dem. l. 1. p. 101
102.

Id. ibid. l. 2.
p. 122.

M. Slegel. de
sanguinis
motu. c. 9.
p. 75.

blood which Simon Pauli observed in an healthy person.

“ In the year 1654. a Citizen of Copenhagen, aged almost sixty years, being accustomed to be let blood every year in May, for prevention of the diseases incident in Summer, would needs be Phlebotomized in the presence of Me, and his Wife and Children: the Chirurgion having prick'd the Mediane vein, the blood as it issued out had a peculiar but most noysome smell, transcending any rotten Egg, or stinking Ulcer, &c. which was so offensive to all in the room, that we were forced to remedy it by burning some perfumes. As soon as the Blood was cold in the porrenger, the stench ceased, and the blood seemed to be of a very good consistence, and of so radiant a Scarlet, that it equalled or rather exceeded the best red that is to be seen in the most beautiful Flowers: it contained but little serum. This passage of his recalls to my mind the serum of the blood of a Maid, of a sanguine colour, and perfect health, excepting a pain in her stomach: the blood which I caused to be taken from her seemed laudable, and burned very vividly; but the serum being set to coagulate, seemed in consistence like to tallow, and smelt like thereunto. In another Child that died of an *Hydrops thoracis*, I observed the serum (as it heated) to sent extreamly ill, and with a penetrancy, as if it had been *Vitriol* burning: it would not coagulate though I boyled it; but afterwards when it had stood to be cold, it did jelly. I know a Gentlewoman of extraordinary beauty, troubled with nothing but *Morphew* or *Vitiligo alba* on her Armes in some places: being let blood, it appeared to be all serum almost, and very little of any crimson mass was in it, and that not so tenacious or fibrous as is usual; though it were as well coloured as any is: I boyl'd away all the serum (which made up about six ounces, or more) and it would never inspissate or coagulate.

The variety of Blood is further illustrated by the case of Henry van Bueren a Brewers man, who in perfect health

Simon Pauli
de febr. ma-
lign. sect. 11.

Regnerus de
Graef de ge-
nitol. p 84, 85.

Th Birlolin.
Spiceleg. de
vas. Lym. s.
c6.

Van der Lin-
den Disp. Phy-
sol. 39. §. 22.

Van der Lin-
den Disp. Phy-
sol. 41. §. 22.

health had his *Blood* such, that though it came out of the *vein* with a *ruddy colour*, yet as it cooled all the *serum* did turn *lacteous*, and resembled *Milk*: though the *sanguineous* Mass retained its due colour: and this was constant to him whether he bled by *Phlebotomy* or any other way. A case like unto this is related by *Bartholin* from *Joh. Bapt. Caballaria*. Concerning the variety of *blood* in *healthy persons*, it is further observable: that not only in some small wounds admit of no cure, or a difficult one: whilst others heal with more facility; in the same persons, when they are young, wounds will be easily cured even by the first intention, and conjoyning of the lips thereof: And afterwards as they grow more in years, every superficial wound gives them much trouble; but when they become old every scratch degenerates into a foul Ulcer: notwithstanding that the Patient all this while commits not any error in his diet, nor is sensible otherwise or any alteration in his body, or blood. In fine, diligent observation will assure any man, that not only the Quantity of blood doth vary in sundry persons, but even the Quality, according to the age, temperament, and diet of the parties; nay even according unto the seasonableness and season of the years. Nor shall I exclude the passionately angry, or melancholick, or phlegmatick from a latitude, yet doth their blood exceedingly vary in the porrenger, and consequently in the veins. I have oftentimes seen (and so hath *Vander Linden*) that in some healthy persons the blood hath been of a redness equally florid from the top to the bottome: in some there hath appeared only some blackish spots at the bottome, which no conversion to the open Air would rectifie into a florid crimson: and perhaps some Observations may inform a man that the florid colour in the surface of the blood ariseth from a thinner sort of blood, of a peculiar kind, which radiates through a subtle pellicle on the top, and when the blood

is

is turned *topsie-turvey*, 'tis not the impressions of the *Air* that restores the *decayed colour* in the more *black blood*, but the *assent* of this *Ichorous blood* through the more *black* and *fibrous* mass. I have some grounds for this *suggestion*; but I never could see any *pellicle* or thin *concretion* upon the *turned blood*, and to the defect thereof I have been willing to attribute the *Phænomemon*, when the *turned blood* hath not equalled in *floridness* the first *superficies*. Some have attributed that *florid colour* to the *concretion* and *shooting* of some *volatile Salts* in the *surface of the Blood*: and think that *Kircher* mistook those *saline striæ* for *Worms* in his *Microscope*.

Simon Paulli
de febr. ma-
liga.

Besides this difference in the *Mass of Blood* as to several *Individuals*, it may not be amiss to consider the difference that is betwixt the *Blood* in *sundry vessels* and *parts of the body*. It is the most common tenet amongst *Anatomists*, that the *Blood of the Arteries* differs very much from that of the *Veins*. Though *Harvey* seems to deny it with *much confidence*, and appeals to *Experience* for the proof of his *Opinion*: yet the *Generality*, as *Doctor Ent*, *Walæus*, and *Lower*, grant there is a great difference in the *colour* of them, and that the *Arterious blood* is the most *florid*, the *venous* is of a darker red: Besides this difference in *colour*, there is a greater which ariseth from the quantity of *serum* which abounds in the *Arterious blood* more than in the *venous*. "Comprobavimus in accepto per nos ex crebris
"Arteriotomiis cruorum duplem ferme compertam icho-
"ris portionem: qua fit fortassis ut crediderit Auctor
"lib de util. respir. Sanguinem Arterialem non concre-
"scere velut venalem; quanquam & nos eum concrefcere
"non semel observavimus. So *Aurelius Severinus*: with whom *Bartholin* agrees. And *Doctor Ent* says it is more dilated than the *venous*. Besides this, there is a discrepancy in the *venous blood* it self: for in the
Lungs

Harvey Exerc.
cit. Anat. 2. ad
Riolan.

Aurel. Severi-
nus Epidoch.
de aq. perio.
sect. 8.

Barthol Spic. 1.
de valis Lym-
phat. c. 7.
Ent de circul.
sang. p. 106.
& 267.

Reald. Colum.
in Anatom.
l. xi. c. 2.

Will. in Exercit.
cit. de sang.
accensione,
Lower de
corde. c. 3.

Bartholin. Spi-
celeg. de vas.
Lymphat. c. 7.

Spigel. de fab.
corp. hum. l. 5.
c. 7.

Vesling ep. 30.
& Van der
Linden Select.
ned. c. 13.
se&c. 423.

Mabius fun-
dam med. c. 12
p. 258, 259.

Lungs the Blood acquires by the mixture of the Air a *tenuity of parts* and *florid colour* exceeding any other *venous Blood*: this *Columbus* first observed, and gave *this reason* for the colour and great change which is made in the Blood by passing the *Lungs*; proceeding to an imagination that the *vital spirits* in the *Arterious blood* might be the result of this *intermixture of Air with the Blood* in the *Lights*: Most of whose opinion is taken up by Doctor *Willis* of late, and Doctor *Lower*. Besides *this* there is a *discrepancy* betwixt the Blood of the *Vena porta* commonly and that of the *Vena Cava*: which is not barely supposed by *Riolanus*; but yielded by *Bartholin*: *Sanguinem in cava prope cor puriorem esse illa qui in vena portæ continetur, omnibus in confesso est qui circulum norunt*. Upon this account it is, that by the *Emerods* there is often discharged a *black febrile blood*, to the great benefit of the *Patient*: but whensoever it is *florid*, the effusion thereof brings a great *debility* (sometimes *very lasting*) unto many persons. May I be allowed here to take notice of the Observation of *Spigelius* concerning the *Saluatella*: that the Blood which issues thereat is more *florid* and *Arterious* than any can be drawn from the *greater veins*: this he attributes to the frequent *Anastomoses* that are betwixt the *Arteries* and *Veins* in the remote parts of the body: wherein he was defended by *Veslingius*, and *Van der Linden*. Doctor *Harvey* observed in the most *healthy* and *robust* persons a certain *mucaginous* humour to *jelly* upon the surface of their *Blood*, which he esteemed to be the most *spiritous* part thereof, others take it to be not an *excrementitious Phlegm*, but indigested *Chyle*: concerning this *Mabius* doth profess, he never observed any of it in the blood drawn, or issuing from the *veins* in the *head*: but frequently in that let out of the *arms*, and most of all in that which hath been taken by *Phlebotomy* in the *feet*. It hath been observed, that the *Blood* which hath issued from the

the head at the nose hath been of a *laudable colour* and *consistence*, when that which hath been let out at the same time by *Phlebotomy* hath seemed impure: And the like difference hath been taken notice of betwixt the *Menstruous* evacuations of *Women*, and the blood taken from *their* *armes*.

Ballonius Epidem. l. 1. p. 68.

This *variety* in the *blood* of several persons oftentimes is a cause of that *discrepancy* which is to be in the *blood* of Men that are *sick*, in so much that when sundry men are afflicted with the same *Malady*, yet may it happen so, that there be little or no resemblance found in *their* *blood*. Oftentimes it is observed that in *putrid fevers* the *blood* that is let out by *Phlebotomy* is seemingly good. *Sæpe ad speciem & visum purus est, qui aliqui tamen in ista malus est. Ut contra impurus cernitur specie, qui non ita tamen in ista malus.* The

Billon. Epid. l. 2. p. 192.

blood often seems to be good, when it is essentially corrupted and noxious: and it seems often to be bad, when as yet it is *incorrupt*, and *alimental*. In *malignant* and *pestilential Fevers* the *blood* is sometimes good to see to, whilest yet the sick languish under most *violent* *symptomes*, and commonly such *blood* is of an evil prognostick. *Pessimum signum est, & timoris plenum, cum sanguis vena scissa extrahitur, si purus, rubicundus, & inculpatus educatur, venenositatem superare indicum est, aut putredinem in penitioribus cordis latitare. In me ipso olim observatam; nam ter per hanc febrem misso per venam sanguine, nulla prorsus putredinis nota apparebat, aliis signis immani ferocitate sævientibus.* In like manner doth *Simon Pauli* observe such outward goodness of *blood* to be a sign of *malignity* in a *Feaver*, and to be of an ill presage: which he illustrates with the case of an ancient man, fifty six years old, who being sick of a *Feaver* (which the *Doctor* concludes to have been *pestilential*) was let *blood*: that which issued out was so *florid*, that it transcended what any pencil could paint, or pen describe now out of any *Artery*; or the

Petrus a Castro. de febr. punitulari. p. 90.

Simon Pauli de febr. malign. §. 11. 14.

Lungs.

Coyttarus de
febr. pu. pur.
p. 247.

Lungs ever surpassed it: after it had stood twenty four hours, the mass was all coagulated, and no serum to be seen: the Patient died suddenly and without any pangs of death a little after. With this doth that Observation somewhat correspond Coyttarus doth make (though he take it for no ill presage) that in Epidemical pestilential Feavers, at the beginning if they be phlebotomised, the blood of the Patient will seem very good and sound, but in the progress it will come out putrilaginous. Circa morborum Epidemialium principia——sanguis si educatur, ruber & sano similis apparet——quoties iterum & tertio mittitur, corruptior, quam prius elicatur——This he illustrates with Instances, and makes this Hypothesis (most judiciously) the foundation of his Method to cure such Feavers by letting the sick blood in the progress not beginning of the Disease: And undoubtedly if then the blood do not seem corrupted but florid, it must be from some venenate or heterogeneous mixture which advanceth the Native red, as Spirit of Vitriol doth that of Conserved Roses.

Almar. Blon.
delus de venæ
sectione: p. 8.

It hath been observed, that the blood in the progress of Feavers hath seemed from time to time upon Phlebotomy to grow worse and worse, even on the day before a natural Crisis. Quoties enim contigit videre in continentibus seu Synochis, & continuis, sanguinem multoties & die ante Crisim emissum priore misso deteriore, & tamen perfectam factam, & ad salutem agrotantis indicationem, ac sine recidiva?

Ballon. Epid.
l. 2, p. 191.

Ballonius observes that many people in the most fatal Sickneses have bled pure and to appearance good blood, whose Bowels and Lungs have been found (upon dissection) vitiated and rotten: Others have had their blood extremely depraved, in whose vitals no default could be found. Plurimis impurissimus sanguis detractus est, imo nunquam fere purus, quibus tamen mortuis & sectis partes omnes satis integræ sunt deprehensæ.

deprehenſa. Aliis fere ſemper purus, quibus tamen
 viscera & pulmones maxime putres ſunt inventi. In
 a Pleuritic that dyed I obſerved once (beſides that
 his Lungs grew naturally to his ſides) that all the left
 lobe of his Lungs were corrupted and all reduced to a
 moſt fetid purulency, that the which he avoided in
 great quantities at his mouth, and upon Phlebotomy was
 very well colour'd and ſeemingly laudable. My Author
 goes on: " Scitu valde dignum eſt, qui ſit ut multis
 quibus putrefacta pene viscera ſunt reperta, laudabilis
 ſanguis detractus fuerit, item & viris, & mulieribus
 multis doxiſſimis, pallidis ac fere virentibus, cum aliqui
 judicaſſes ſanguinem non aſimilem colori (cum quale
 alimentum, id eſt ſuccus in venis, talis color effloreſcat)
 tamen florentiſſimus ſanguis detractus fuerit non
 ſerofus nimium, non ſubviridis & virore pallidus,
 At alios videmus ſcabie infectos, aut ſimili vi-
 tio, quibus certo affirmamus nos impurum ſectione vene
 ſanguinem detracturos, & tamen in iſta deſedatione
 cutis illibatus incorruptuſque ſanguis eſt, & opinionem
 ſpemque fallit eventus. Nos Elephanticiſ ſepe lauda-
 bilem ſanguinem detraximus. Quanquam fieri poteſt,
 ut ſpecie laudabilis ſanguis appareat, cum inteſtinum
 aliquod vitium in eo deliteſcat, quod quidam in habitu
 corporis, & præſertim in partibus delicatioribus, ut in
 facie cum ultimo elaboratur, & in rorem convertitur,
 tum demum ſe proferat & exhibet. Præterea ſiquis
 ſplenicus eſt, aut Emphyicus, manente in venis ſanguine
 puro, non deſinit eſſe pallidus, emaciatus, ſubviridis,
 aut nigricans, quia non in maſſa ſanguinis vitium &
 cauſa labis eſt, ſed in alia parte.

Id. ibid. l. 1.

p. 100.

p. 101.

In like manner Blondelus obſerved that after a Dy-
 ſentery of two months ſtanding, accompanied with a
 Singultus, and continued Fever, the Marqueſs De
 Ceuvres did upon Phlebotomy avoid at the Arm very lau-
 dable blood, whileſt that of his ſtools ſeemed to be ex-

P

treamly

Almaric. Blondelm de venæ sectione. p. 68, 69. *treamey corrupted. His superaddo sanguinem detra-
tum omnimodas puritatis notas retinuisse, a sero bene
repurgatum.*

Dr. Willis de febr. c. 1.

Doctor Willis after he hath made excellent use of those two old Galenical Comparisons betwixt the Blood, Wine and Milk; adds this accurate and true relation concerning the morbid discrepancy of Blood: "Thus the Blood, like Milk, in its perfection, as it cools separates into the several substances of a florid red on the surface, a thicker filamentous subsidence, and a serous liquor: But if it be much depraved, when it separates in the Porringer it discovers it self in a different aspect, and each part assumes another shape: for that cremor which coa-

Enimvero superficies candidans gelatinæ similis in emissio sanguine, plerumque in morboſis condensata conspicitur, & videri cori instar crassam lentamque; sæpe in febribus acutis hoc anno observatur. Th. Bartholin. de laboribus dubia, c. 3.

gulates on the top, sometimes is white, sometimes green, sometimes of a Citrine and livid colour: and is not tender, but viscid and tenacious, so that it becomes as tough as any Membrane, & is not without difficulty pulled in pieces. When the Blood hath been for some time seised with a Feaver, upon Phlebotomy there appeareth instead of the beautiful crimson on the surface a certain white or other-coloured Pellicle oftentimes: the reason whereof is that the blood being as it were terrified by its effervescence, the upper part thereof commuteth its redness and tenderness into a white and more tenacious substance: And if the Mass of blood be not well cleared of its saline and sulphureous recrements, that superficial Skin is stained with a Citrine or livid tincture: and for the same reason the supernatant Serum acquireth the same Colours: Moreover the purple crassament of the Blood undergoeth several variations:

some-

sometimes it is (a) blackish, when the
 Blood hath been too much terrified with a
 long effervescence. Sometimes the fibres
 thereof are quite vitiated, so that it will
 not (b) coagulate, but remains fluid,
 like thick Milk; which is a bad sign, and
 occurs often in putrid Feavers, and Ca-
 chexies. The Serum is sometimes defi-
 cient, as in Hiccicks, and after too much
 sweat. Sometimes it superabounds, as
 in Hydropicks; and being set upon the fire
 will not entirely coagulate into a white
 mass: In some cachectical persons the
 blood is so watrish, that it resembles that
 sanious blood which stains the water in
 which flesh is washed. I knew a man of an evil habit of
 body, whose blood (upon Phlebotomy) used to seem
 white and like to Milk; which, after a course of Steel
 would be again indifferently red.

(a) It was black, in co-
 lour and consistence like to
 liquid Pitch, in the Woman
 whose menstrua stop'd
 eight moneths, and was
 cured by Galen with rei-
 terated and large Phle-
 botomies. Galen 6. Epidem.
 3. 29. cum notis Van der
 Linden. select. med. c. 14.

(b) Aliquando putrescen-
 tia non tam se insinuat co-
 lore, quam substantia mo-
 do, ut quum erit raber sed
 non concresecens. Valles.
 de victu in acut. p. 45.

I shall add hereunto, that I have frequently seen the
 Blood in Hectical persons, and such as have had a latent
 Fever to be very serous, and that of a livid, and citrine
 colour: and in Hydropicks that have bled at the nose
 there was not any serum in the blood at all. In the
 Febris alba virginea (which I here contradistinguish
 from the Chlorosis) I extracted four hours after
 dinner out of the Saphena of such blood, as that the
 Crassament was laudable for colour and consistence, but
 the serum was so white, as not to be distinguished from
 milk: the lacteous serum did coagulate, but retained no
 smell, whereas it usually resembles a roasted egg: it was
 saltish to taste: At the same time I bled two more
 in the foot, neither of which had any such lacteous
 serum, but a citrine serum: Hers, which was a young
 Lady, and in health, burned very well, and crackled:
 the other being aged sixty years, was excellently and

Both the
 white serum
 and blood
 burned vi-
 vidly with-
 out any
 crackling.

equally coloured from top to the bottom, and the serum inclining to citrine: but would not burn at all, only crackled much, and puffed with wind. She had no indisposition on her, only was troubled with a flushing in her face, swelling of the nose, and an inward heat, such as is commonly attributed to an hot liver. I do not attribute that lactescence in the first Ladies blood to the mixture of new Chyle, which Doctor Lower saith he hath observed in Men, and other Animals, being phlebotomised a while after meat, to create a lacteous serum: for I never in all my life was so happy as to see that, though I have blooded my self on purpose two hours after dinner to make the tryal: and have an hundred times examined the blood of others who have been blooded at such times as we might expect to see that Phenomenon of his. Yet hath the reality of his observation been confirmed unto me by other credible witnesses: so that I question not but he may have seen it; though I could not in these Ladies, who all dined together about one of the clock, and had done bleeding by four.

Neither may I pass by this Observation, that of all the Serum which I have tasted, I never found any to be bitter, though I extracted some once that seemed so bit-
tious, that being put into an Urinal none could know it from urine highly tinged: as soon as I set it on the fire it coagulated with a less heat than I imagine it to have had in the veins, and it exchanged its hue for the usual white, smelling like a roasted Egg. Yet doth Van der Linden say, that some have tasted the blood of Ictericall persons, and found it bitter.

Van der Lin-
den disp. Phy-
siolog. 51.
sect. 19.

Andr. Vesalio
de rad. Chins.
p. 252.

Ad nihil naturaliter in sanguine amarum est: sed nec esse potest; reddere enim sanguinem ineptum suo muneri; ceu observare est in Ictericis. In his enim sanguinem amaricare accepimus ab iis, qui & ipsum vena emissum, & urinam ejus gustarunt, Asclepiadio more. And Vesalius gives us an account of one Prosper Martellus, a Florentine Gentleman,

Gentleman, much inclined to and troubled with the Jaundise, whose Liver was scirrhus (but Spleen sound) and his Stomach turgid with choler; and wheresoever he opened any of his veins they were full of thick choler, and the fluid liquor which was in the Arteries did tinge his hands as if it were choler. I find the like Observation in Th. Kerckringius: that an Ictericall Woman brought forth a dead Child in the eighth moneth, which was so yellow all over, that it rather seemed a Statue of such wax, than an humane Abortion: being dissected By him, instead of blood in the veins there was nothing but choler, and all the bones were tinged with such a yellow, that one would have thought them painted.

Th. Kerckringius Obs. Anatomic. 57.

The Scholiast upon Ballonius observed, that however the blood is naturally sweet, even such as upon obstructions from the Menstrua hath regurgitated and discharged it self at the Gums of women: (as they have told me) yet in one that was troubled with the Green-sickness the blood, though stord, was salt. *Potest esse floridus color, & in se esse acrior & biliosior: unde quaedam mulier τρυφερά, & ejusmodi prædita temperamento mihi affirmavit, si quando vel ex dentibus sanguis affluit, vel e capite, eum sibi gustum sentiri salsum & molestum.*

Ballon. Epidem. l. i. p. 111. sect. 17.

When I was at Barbadoes we carried off several poor English thence to Jamaica, where many of them falling sick, and some being well, were let blood: I observed that in those poor people, which live upon nothing almost but Roots, and drink Mobby (a liquor made of Potatoes boyl'd and steep'd in water, and so fermented) that their blood did stream out yellow, and in the Porringer did scarce retain any shew of red in the coagulated mass: yet are they well and strong, but look pale and freckled: such persons (which are frequent in Barbadoes) are called Mobby-faces.

It were infinite, at least beyond my present leisure, to relate all that variety of morbid blood, which hath been observed in sundry diseases, and in several persons languishing under the same distemper: as in *Pleurisies*, the *Scurvey*, *French-pox*, *Hypochondriacal Melancholy*, and the like: wherein if it be true, as it is, that oftentimes diseases vary in individuals, 'tis no less certain that the blood doth also vary in them: so that oftentimes ignorant Physicians do imagine a greater corruption in the blood, and a greater recess from what is natural to the person, and a greater danger in the disease, or in the practise of *Phlebotomy*, than they need; yet in *Epidemical*, or some *Sporadical* diseases, if the *Phænomena* be as general as the disease, 'tis certain then that the resemblance of the blood argues a resembling cause, which prevails over the *idiosyncrasy* of particulars.

I know it will be expected that I should say something about the *Controversie* whether the Blood be one *Homogeneous liquor*, the recrements whereof make up the four *Galenical Humours*, which are no otherwise parts thereof, than the Lees and Mothers of Wine are constitutive parts thereof? Or whether the four *Galenical Humours*, viz. that which is properly Blood, *Melancholy*, *Choler* and *Phlegm* are the constitutive parts of the Blood, in its natural consistence and *Crasis*? I shall say therefore about this point as much as may be requisite to my present purpose.

First I observe that the *Galenists* are at a difference whether the Mass of blood contain those Humours actually, or only potentially? so that one may hold according to them, that the blood is as homogeneous a liquor, as any *Neoteric* doth hold it to be, though it arise by the mixture of their five principles. Amongst others *Erastrus* hath a *disputation*, in which he amply asserts,

asserts, that all those *Humours* when they are actually in the blood they become *excrementitious*, and are no longer parts thereof, but such as the ejection thereof depurates and perfects the other remaining blood, which he confesseth to consist of several parts constituting one body, to which they are as essential as the *serous*, *caseous* and *butyrous* part are to *Milk*, which if they be deficient 'tis no longer *Milk*. Nam ut non potest lac bubulum intelligi sanum & perfectum sine tribus suis partibus, sero, caseo & butyro, ita non potest sanguis probus animo concipi & definiri absque partium illa varietate. Fernelius doth compare the generation of Blood to that of *Wine*, wherein the *Chyle* is supposed to resemble *Must*, which by fermentation separates and throws out such parts as are not actually in that liquor, but arise upon fermentation and are ejected several wayes: the more crude parts are by time digested, and then the noble wine brought to perfection: so he supposeth it to be in the blood: and thus though all the humours be at once as it were produced in the *Chyle*, yet are they no more parts of the blood, than the *Tartar* and *Mothers* are parts of *Wine*. Both these Similitudes of *Milk* and *Wine* to *Blood* were first I think introduced by *Galen*, I am sure he made mention of them, and so did his Successours; to *Mercatus*, *Fernelius*, *Platerus*, *Palleriaca*: then *Carolus Piso* began to carry the comparison further in his discourse of *Feavers*: and after him *Quercetan*: and since that our learned and judicious Countrey-man Doctor *Willis*. Others held that the blood as it flows in the veins, and is designed by Nature for the *Aliment* and other uses in man, is not to be understood as one liquor consisting of some variety of parts, yet united into one similar body (the rest whereof were to be excrements) but a more confused Mass of several distinct *Alimentary Humours*, which Nature never intends to unite into one similar body, but to continue in a certain more loose mixture,

each

Erastus disputat.
19. §. 62. 54.

Fernel. Physi.
oleg. l. 6. c. 3.

Galen. l. 2. de elem.
Galen. 4. de usu part. c. 4.
& de nat. fac. l. 3. c. 13.
Valleriata loc. commun. l. 1. c. xi.
Mercat. Qu. 65.

Bollon. definit.
Medic. p. 7.

each thereof retaining its proper congruity for the continuance of life and health. They do confess that there is a pure crimson part, sweet and balsomical, which they call in rigour Blood: but they say Nature never intended this for the sole vitalliquor; because she never produceth it alone; or if it be ever seen so, 'tis in a morbid condition; as in malignant Feavers, where the *Qua duplex*, or Blood free from the proportionate mixture of other Humours, is reckoned amongst evil signs, *Qualis sanguis in malignis adurentibusque febribus solet excerni, aut vena tinsa educi*. And therefore as none of the Humours are ever seen alone, any more than Blood is (for they hold them all to be excrementitious; when separate) so they conceive they all together in a certain proportion make up that aggregate called Nutritive Blood: and are all actually there, because they do observe that all of them at sometimes have their distinct corruptions, though they continue still in one mass; which they conceive they could not have, except they were actually there: They do conceive them to be so there, that the resemblance betwixt Gall, or extravasated Phlegm is but Analogical: so that they do not pretend to shew in the Blood a bitter Gall, or a pontic arminionious Melancholy: They will not allow these to be other than depravations of the Alimentarions Humours: and the sincere alimental juices are no more pretended to be evinced by them; then the pure Elements, except it be a posteriori, by a diversity of effects arguing different causes. They saw there was a great latitude in the blood of healthful men, yet so as that the blood appeared with different colours, and consonant to the colours there seemed a variety in their dispositions, and other corporeal qualities: they saw the Mass of blood upon perfrigeration to go into several substances, and they intellectually disjoyned them more, for doctrine-sake; obliging themselves to produce each Humour in its imaginary purity, when the

the Chymical fire should exhibite any body not decomposed, or the Corpuscularians make more manifest their configurations of Atomes, or Texture of Particles.

Having thus stated the *Question* with as much perspicuity as I could: I pursue to enquire which is most conformable to the effects in Physick; for I will not undertake to determine what God and Nature do in the production or mixture of bodies: It is easie for a man to loose himself in those inquiries: He that made us can tell how we were made; our Argumentations are as vain as if one should assert that a Loaf of bread consisted of Cubes, Lozenges, or Trapeziums, because we can cut it into parts of such a configuration. Let us but imagine a subtle Chymist to analyse Chymically our Ale, if ever he thereby discover that it is the product of a Barley-corn growing into a stem and grain, then turned into Malt, grinded, boyled with water, and fermented; I will assent unto the Chymical resolutions of blood: Physicians have been alwayes allowed hitherto to be a sort of gross Artisans; and I remember Massarius somewhere calls it an

Hippocratical demonstration: *Judicium autem Curatio.* To know bodies exquisitely mixed, and to mix them intimately, is a divine attribute: this last is avowed by Galen. *Miscere corpora tota per tota, non Hominis, sed Dei & Naturæ est opus.* Perhaps it may be replied that the most ignorant persons may say thus much: It is true, and if he speak it knowingly, I confess I can say no more than he. *Sed quod dicemus objectioni illi? Ignarus æque ac Philosophus deum causam omnium assignabit: Hoc ignarus inscienter, Philosophus scienter assignabit: quemadmodum Aristoteles ait de Parmenide & Melisso:*

Q

De re ipsa ut neque dubites, morbi morborumque curationes docent. Nimirum hoc est maximum argumentum Hippocratis, ait Massarius. Van der Linden disp. Physic 2.

Lacuna Epit. Galeni de temper. l. i.

Francisc. Sanchez de longit. & brevitate vitæ. c. x.

quem-

quemadmodum cæcus alicujus tunicam albam esse asserit. — Nil scimus. Dicamus ergo. Primarum rerum, principiorum, aut elementorum causas reddere, nostri non est captus: secundarum vero, utcunque. Id in singulis questionibus experiri possumus.

I say then that notwithstanding any allegation to the contrary, it is manifest that a certain proportion of salt, sulphur, and spirit, besides earth and water, is neither requisite to perfect sanity, nor its defect as to any particular, the cause of diseases: and this is manifest out of the constitution, as well as colour of the blood, in morbid and healthy bodies, as appears by the burning and distillation of blood: There is much of truth that —

I have lately bled a Woman which after a Quarantaine was troubled with obstructions of the Spleen and Liver, effervescences in the Intestines, Asthmatic paroxysms, acute pains in her head, obtuse pains in her limbs, visible beginnings of a Dropsie; the blood at its issuing out seemed very black, but was pretty laudable in the porringer: it burned well, without any crackling or intumescence almost: so did the Serum: Here the salt seems rather defective, than to abound, as it ought by those principles.

T. T. says, or may be so. “ Now I am ready to discover in reference to miserable man: that the pretended sanguine sulphur or Cacoehymy of any in an high Fever doth afford more salt, water and earth, each of them, than sulphur. I have taken that diseased blood termed corrupt, which might seem to some to abound with sulphur, being clearly conveyed into a Retort with a Receiver joyned thereto, I have by a graduated fire regulated very strictly, brought over what possibly I could. In the upshot upon the separation of the several parts, I have found very little sulphur in comparison of each of the rest.

“ At another time I procured the purest blood I could get from an healthful person, putting it to the same igneous tryal, as the former degenerate of equal proportion to it: then after sequestration of the parts, I could not perceive any considerable difference in the quantity or quality of the several parts of that sound and the seemingly corrupt blood.

I do say that in the *Blood* of all persons that are in *health*, there is upon *Phlebotomy* somewhat that justifieth the *supposition* of the *Galenists*; but not which confirms the *Hypothesis* of the *Chymists*. The *coagulable serum* doth commonly represent their *choler* in part: the *florid fluid* red their *blood*: which if lightly washed away, their is another more darkly-coloured which is proportionate to their *Melancholy*: and if you wash the *fibrous mass* well, it will be *white*, and answerable to their *Alimentary Pituita*, or *Phlegm*. In this *last part* I have the concurrence of *Malpighius*, who upon washing all the blood from the concrete *Mass* of blood, found the remainder to be a *fibrous con-* texture of a *whitish colour*, which he pitcheth upon as the materials for a *Polypus in the Heart*: And had he taken more particular notice of that *fluid blood* in the cells of those *interwoven fibres*, he might have discovered *two sorts of blood*, one that readily ascends, and is *florid*: the other more *black* and *feculent* which moveth not: and both these stain the water they are washed into with *different reds*, the one much brighter than the other. That some *fibrous con-* cretion in some diseases, as *Rheumatismes* and *Plurisies* covereth like a *pituitous mass* the surface of the *blood*, whilst that remains *fluid* and *blo. kish* underneath: nay I have out of *healthful blood* in the *Spring* (I am almost convinced that the *blood* varieth with each quarter of the year) cast it up to the surface in *just such a mass* as covers the top of the blood in those *distempers*, by putting some *spirit of Hartshorn* into the *Porringer* before the party bled into it. I place the *choler* in the *serum*, not but that I know that it hath not the *taste* or consistence of the *excrementitious Bile*, but because it hath frequently the *colour of it*, and the *Urine*, and *Pancreatick juyce* (not to mention the *Lymphæducts*) are tinged with it, and

M. Malpighi.
de visceri-
structura.
p. 163. edit.
Londinens.

In quibus superficies sanguinis durior est & candidians, subjectus sanguis in pelui sine fibris plane est putridus; imo vidi in hujusmodi, ne guttulam coloris rubri. Bartolin. de lacteis dubia. c. 3.

oftentimes have the *Sapor* of it : I am sure that herein I have the *suffrage* of *Pecquetus* thus far, that the *choler* which is separated in the *Liver* (and which tingeth the *Urine*) is extracted out of the *serum* of the blood, where it circulates first along with it, and is percolated out of it in the place aforesaid.

Vide Pecqueti. Dissertat. Anatomic. de circulat. sanguin. c. xii. Videtur humor felleus sanguini firmiter adhærescere; quod in feri illius parte fundatus sit, nec facile ab illo, intra ulteriorem præparationem separari possit. Charleton. œconom. Animal. c. 7. sect. 16.

“ nullibi per universas animalium species
“ absque bilis mixtura sanguinem reperis :
“ flavescent id serum salsumque testatur;
“ nisi forsitan aliquot in suppositis quibus dul-
“ cem mitior natura sanguinem concoxit, se-
“ cut & in aliis, quibus acciditatis expertem
“ infudit, aut nullo prorsus liene instruxit,
“ aut sane perexiguu. I cite him the more
willingly, because that If the *Galenists*

seem infatuated for saying the *Gall* is a constitutive part of the mass of blood, (whereas they cannot demonstrate signs thereof by its bitterness) a great part of the scorn may fall upon *Pecquet*, *Backius*, and *Sylvius*, de *le boe*, and other *Neoterics*, who hold it is incorporated in the Mass of blood.

But these Controversies can be no better decided than by an Enquiry into the Generation of Blood, how that it is at first begun, and afterwards continued : the knowledge whereof will conduce much not only to the decision of that Question, Whether there be in Nature any foundation for those *Galenical Humours*, that they are constitutive parts of the Mass of *Alimental Blood*? But also to the main debate in hand Concerning *Phlebotomy*:

There is not any thing more mysterious and wonderful in the Universe I think then the production of Creatures : In so much that *Longinus* a Paynim doth hereupon take occasion to celebrate the judgment of *Moses*, in that He represented the Creation by a Divine FLAT, and God said let there be—and it was so. The Mechanical production of Animals from so small and

and tender rudiments, out of a resembling substance, in all that variety which we see, by a necessary result of determinate Matter and Motion, is so incomprehensible and impossible, that were not this Age full of monstrous Opinions (the consequent of Ignorance and Inconsiderateness) one would have thought no rational Men, much less Christians would have indulged themselves in the promoting and propagating such Tenets. 'Tis an effect of that Sovereign command that every thing hath its being and faculties; "Quin nil aliud est Natura, quam jussus ille Dei, per quem res omnes hoc sunt quod sunt; & hoc agunt quod agere jussæ sunt. Hic, inquam, non aliud quicquam, cuique rei suam dedit speciem & formam. Per hunc non agunt modo propria natura, hoc est, prout preceptum est ipsis, res creatæ omnes, sed per eundem reguntur, conservantur, propagantur: Et nunc etiam quasi creantur. This is that which gives a beginning to the Fetus particularly, and by unknown wayes contrives the seminal vertue, its receptacle or Egg, and that colliquament out of which the Body is formed. Because the first rudiments of conception are tender and minute, such a provision is made in order thereunto, that the albuginous substance of ordinary Eggs is no other than what is derived into the female womb: And if we may continue the comparison, it will seem most rational to imagine, that the parts of the whole are contrived at one time, though they neither appear all at the same, nor in a proportionate bulk; for in some their minuteness, in others their whiteness and pellucidity conceals them from the Observer: But that even then there are exerted the precludes of those vital operations which are so visible after in Nutrition, I doubt not: and that as in the Coates of our eyes the minute veins and arteries convey their enclosed liquors (though undiscernable except in Eyes that are blood-shot) and as in the brain there hath been discovered veins by some drops of blood issuing

Erasmus disputi
de propriet.
Medic. c. 15.

This is the
opinion of
Dr. Highmore,
Velthuisius,
Couvree, and
Everardus.

in

To. Jac. Wepfe.
de apopl.
p. 92. &c.
Eustachius de
dentil. c. 20.
Th. Kerkring.
Obs. Anatom.
c. 26.

D. Highmore's
Hist. of Gen.
c. 5.

in *dissection*, though no *Eye* can see most of the *capillary vessels*; and as even the *veins* and *arteries* themselves are thought to be nourished by other *arteries* and *veins*, rendering them that service which they do to the more *visible* parts: even so it is in the *first formation*, wherein after some *progress* the vessels begin to appear, and *blood* first discovers it self in the *Chorion*, and thence continues its *progress* to the *punctum saliens*, or *heat*, and undoubtedly proceeds in its *Circle*, though the *smallness* of the vessels (as in other cases) conceal the *discovery*. So that we may imagine that the *Plastick form* (or whatever else men please to call it) doth produce the *blood* out of that *albuginous liquor* (which seems as *dissimilar* as the *blood* out of which it is derived, though the parts be *providentially* more subtilised, and *refined*) by its own power (as it doth the rest) through the assistance of *warmth*, and concurrence of the *contemporary fabrick*: for the *first blood* can neither give a beginning to its self; nor is it comprehensible, how the *weak impulse* thereof should shape out all the *veins* and *Arteries* in the *body*, according as they are *scituated*. Out of which it is evident that the *Soul* or *Plastick form* doth at first reside and principally *animate* in the *Spermatie parts* (so called not that they are *delineated* out of the *Sperme*, but out of the *Colliquament*, which is *Analogous* to it) and that they are her first work; the *blood* is but the *secondary*, and generated out of the *Colliquament* (for other *Materials* there are none) by the *Plastic form* which is the proper *efficient* thereof, and besides the *Auxiliary Heat* there are no other *instrumental aids* but the *spermatick vessels* wherein the *Colliquament* at first flows to the *punctum album*, which when *blood* is generated do become the *Heart* and *sanguiferous Channels*. This is avowed by Doctor *Glisson* himself;

Glisson Anat. Hepatis. c. 35. "Liquor hic vitalis, antequam sanguinis ruborem induit, sese a reliquis ovi partibus (quibus promiscue commisce-

tur.)

tur) segregare incipit, & in rivulos seu ramificationes
 quasdam excurrere, quæ postea venas evadunt. Rivuli
 isti in unum punctum coeuntes, in eum locum conveni-
 unt, qui postea punctum saliens & cor appellatur. Idque
 fieri videtur, diu antequam sanguinis aliquod vestigium
 compareat. Herewith agree the most exquisite Ob-
 servations of Doctor Highmore. Most certain it is by
 the History of Generation, that no Parenchymatous part
 hath any operation in the first production of the blood;
 all their Parenchymas being post-nate thereunto. And
 if the blood be thus generated at first, it is but rational
 for us to imagine that it is alwayes so generated du-
 ring life: For as it is true that the same cause acting
 in the same manner will alwayes produce the same effect:
 So in this case to argue from the identity of the effect to
 the identity of the cause, is allowable. Est enim causa-
 rum identitas quæ facit ut effectus sit idem: quippe
 effectus supponitur non esse, donec a causis existentiam
 suam indeptus fuerit; & dum existentiam illam largi-
 untur, oportet ipsius quoque identitatem impertiant, qua
 sine effectus ipsemet nequaquam fuerit, That the Sper-
 matic vessels in which the blood moves do contribute to
 sanguification much, seems apparent from hence: that
 the blood is seen in them before it is in the heart: And
 because it is observed that the fluidity of the blood
 seems to depend much on them; and therefore in the
 dead it doth not coagulate (except præternaturally)
 in the veins, though it do commonly in the Heart, or
 wheresoever it is extravasated. Manat præterea
 aliquid a venis nobis incognitum, quod dum earum ambitu
 sanguis concipitur, prohibet ejus concretionem, etiam post
 mortem in cadaveribus jam perfrigidis, nequis hoc colori
 acceptum ferat: quod vero coralliorum instar aliquando
 repertus est concretus in venis ipsis, hoc merito Fernellius
 ascribit morbo occulto. And not only the fluidity but
 motion of the blood seems to depend much thereon: for
 if by a ligature the impulse and succession of blood be
 prevented,

Dr. Highmore
 hist. of Gen.
 c. 8. p. 69, 70.

Glisson. Anat.
 Hepatis. c. 35.

Greg. Horstius
 Instit. Medic.
 disp. 3. Co-
 ron. 1. Ap-
 pend. com-
 clus. 4.

Berigardus
 Circul. Pisan.
 1. part. 6. circ.
 7. — Aperta
 namq; in ca-
 davera vena,
 sanguis pro-
 fluit. Em. de
 circul. sang.
 sect. 137.

Wilaw de
motu sang.
epist. 2.

Pecquet dif-
fertat. Anat.
de circulat.
sang. c. x.

prevented, yet will the blood in the veins continue its course, and not stagnate. Exempto e corpore corde, motus tamen sanguinis, isque satis celer in sanis videntur. Et si vena ulla, etiam lactea, duobus locis ligetur, laxata ea sola ligatura quæ cordi propinquior est, dum partes adhuc calent, semper Chylus ad hepar, sanguis ad cor cum movebitur: qui nec a corde per Arterias, nec ab intestinis per lacteas, objecto potuit obice propelli: nec fluiditate sua potius sursum quam deorsum movetur. The truth hereof seeming undeniable to Pecquet, he makes use of a new Hypothesis to solve this motion of the blood, as if it arose from compression of other parts, or contraction in the vein it self: But the Phenomenon will appear in such cases as admit not this pretence. From these reasons it is that the blood doth not need so much as any pulse in the veins and arteries (as appears in the first fetus) but as soon as it comes to the Heart it does (to prevent coagulation) the punctum saliens (being endowed with no such quality) practiseth its systole and diastole, when yet no such motion is observable in the Arteries at that time. Whence the colour of the blood ariseth, is a secret unto me: I know that digestion reduceth some Juyces to a redness: in some Fruits the fire doth the like: in some the mixture of acid Liquors begets a Vermilion: But here I conceive none of these causes produce the effect; the generation of the blood is manifestly an Animal Action, and, as such, unsearchable. Whatever I attribute to the veins, it is not to be expected that supposing they should instrumentally sanguifie, the blood should turn blew from them, any more than that water put into new vessels of Oak should turn white, whereas it becomes reddish. Thus the Plastic form produceth blood at first, and whilest there is no first concoction in the stomach, supplieth that defect by that albuiginous Colliquament which is of the same nature with the Chyle we digest our meat into, and convey by the Lacteous Thoracic ducts into

into the Heart. That it is of the *same nature* appears hence, that it resembles it, and that it is extracted from the Blood of the *Mother*; and produceth in the *Embryo* the like excrements of *Choler*, and *Urine*, and *Mucosities*; nay it hath been observed by *Riolanus* to have been tinged *yellow*: How much more may be concluded hence in favour of the *Galenical alimentary humours* supposed to constitute the *Blood*, I leave those to judge who consider the variety of *female constitutions*, and their condition during their *being with child*: perhaps the *Hypothesis* of a proportionate mixture of the five *Chymical Principles* will not seem more colourable.

Having thus related how *Sanguification* is performed in the *Fetus* at first; I come to give an account how it is performed *afterwards*; and even here it seems an *Action* perfectly *Animal*: for even *Concoction* in the *Stomach* is not the bare effect of *Heat* *elixating the meat*; nor of *acid* or *saline Ferments* dissolving it; nor of any other kind of imaginary *Fermentation*: But 'tis the effect of an *Animal power* operating upon the *Meat* in the *Stomachs* of *sundry Men* and *Animals* by *several ways*: This appears most evidently herein, that the *same meat* eaten by *several Persons*, or *different Animals* produceth *different Blood* and *different Excrements*: therefore *Chylification* is an *Animal operation*, and is modulated by the *specifick* and *individual constitutions*. Having thus determined of things, that the *soul* in all these actions is the *Efficient*, we may consider that the *meat* being *masticated* in the *mouth*, and commixed with the *salival juyce* or *spittle*, is prepared in order to *Chylification*: then it descends into the *stomach*, and is *there* (sometimes in a longer, sometimes in a shorter space) reduced into a *cremor* which is so far from being *acid* (as *Helmont* saith) that it is generally rather *saline*, as are also the recrements of it that remain in the empty *stomach*: It is true that ac-

R

cording

Riolanus And
thopogr. l. 6.
cult. p. 411.

Concerning
Concoction in
the stomach
see the excel-
lent discourse
of *Mabius* de
usu ventriculi
fundam. Medic.
c. x where he
resolves it is
done by an
Animal heat,
or Spiritum
vitalis vegeto
calore predi-
tum.

Vide *Mabius*
ubi supra: &
Kerger. de
ferment scilicet
3. c. 2. p. 209
201.

Vesalius de
fabric. hum.
corp. l. 5. c. 3.

Reusnerus de
urinis, c. 3.
p. 42.

Dr. Needham
de format. fæt.
p. 101, 102.

Dr. Lower de
corde, c. 5.

according to the *stomachs* of *Individuals*, and the *meat* they eat, it happeneth so that this *Cremor* hath no certain *taste*, nor *colour*: Undoubtedly it must have been *bitter* in that *Marriner* (and such as *he*) of whom *Vesalius* writes, that the *Gall* did naturally discharge it self into his *stomach*, yet did he digest very well, and never was apt to vomit, or to be so much as *sea-sick*. From the *stomach* the *Cremor* descends into the *Intestines* (not all at once, but as it is digested) and there undergoes a *second digestion* receiving into its mixture the *Gall* and *Pancreatick juyce*: I shall not speak of the *variety* that hath been observed in those *two liquors*, nor trouble my self about the manner how they operate on the *Chyle*: It is manifest that upon that mixture the *Chyle* suffers a great alteration (if not some *effervescence*) and some parts are *coagulated* and as it were *precipitated*, and by a *succession of changes* the several particles are so blended, and refracted in their *qualities*, that the excrements at last are neither *acid*, nor *bitter*, but (in *dogs*) both *sapors* are extinguished. In the mean time, during this descent of that *miscellaneous* the *lacteous vessels* do imbibe and convey the *Chyle* in the shape of *Milk* to the *Receptacle*, where mixing with the recurring *Lympha* (which is sometimes *yellowish*) it passeth through the *Ductus Thoracicus* unto the *Heart*; and in the *subclavian* vein associating with the *Blood*, it passeth along with it, supplying the continual decay of the *Blood*, and yielding *Nutriments* to the parts, and *new matter* for *excrementitious humours*: yet so as that it is not all transmuted into *blood*, or *perfected*, at one passage through the *Heart*, but by repeated *Circulations*, whereby it comes to loose its *lacteous colour*, and contract a more *saline taste*, as well as a *serous limpidity*, or some more *degenerate colour*: yet it is still *coagulable* (except in a *morbid state*) like to the *white of an Egg*, as the *depurated Chyle* is. It were easie to pursue this discourse so as to
demonstrate

demonstrateth that neither the separation of the Urine in the Kidneys, nor of the Gall in the Liver, nor of the Spittle in the Glandules are other than vital Actions, wherein the same form which at first shaped the Body is principal Efficient, and that in these Operations there is somewhat more than percolation of corpuscles differently seized: But I shall conclude this discourse by accommodating of it to the defence of the Galenical Alimentary Humours supposed to constitute the Blood: It is manifest in this History of Sanguification that the Pituitous liquor which is derived into the Mouth by the salival vessels is most agreeable to that which is by the Galenists called Phlegme: it is not like the serum in the blood, for it is not coagulable, as the other: 'tis insipid; and as it makes so considerable a part of the chyle in the stomach, so it may well be presumed to continue its intermixture unto perfect Sanguification: As for the Gall, as its intermixture in great quantities with the Chyle is undeniable, so 'tis not improbable that it gives a fluidity to the Chyle beyond what it acquires in the stomach: thus Painters to make their colours and oyls more fusile, and accommodated to their use, do mix Gall therewith. That upon the mixture it should loose its bitterness and become sweet and alimentary is most agreeable to the Galenists, and no wonder: for the saps as well as colours of liquors are easily altered: and 'tis manifest that this happens in the descent of the Excrements through the tract of the Intestines: and why not in the *vena lactea*? there are signs of it in the flavidity usually observed in the Arterious blood: and 'tis remarked by Judicious Mebrius concerning the blood, that it is not Homogeneous.

“ *Habet enim sua stammina, & nigricantes fibras: habet serum salino principio imbutum ad putredinem eludendam: habet partem subtiliorem splendente rubore excellentem, superficiem in extravasato cruore ambientem: Et hæc in recessu videtur custodire* BILEM ALI-

R 2

MEN-

Platerus
Quæst. Phy-
siolog. 17.

Mebrius fun-
dam. Medic.
c. 14. p. 339.

Mabius ubi
supra. p. 338.

MENTAREM, flavidine sub insigni rubore abscondita. Quæ ex rubro nigricant, flavedini si misceantur, talem splendentem ruborem exhibere, cuius clarum est. The bitterness which it hath is produced by the Liver upon its separation there, which is not done by meer percolation, but an accession of transmutation there. As for Melancholy, how much the Pancreatick juyce resembles that (when it proves not to be bilious, as Veslingius and Virsungus always observed it to be) let any man judge by what Regnerus de Graeff hath most ingeniously written thereof: besides that the more black part of the blood seems as essential thereunto, as the more bright RED. But the Degeneration of the Blood into those Excrementitious Humours, seems to evince as much as the Galenists pretend unto; Since every thing is not produced out of every thing, but out of determinate matter: 'tis not incongruous to imagine that in the due constitution of the Blood there is an Analogical difference of Alimentary juyces to make up good Blood, since there is such a discrepancy in those depurated from it; upon which the Soul, by the innate temperament of the parts separating, doth so operate that its effects are modified by the nature of the subject matter: Hence that variety in the tastes of Urine, which is sometimes so bitter that Gall doth not exceed it: sometimes sweet; so that Fonseca relates of a Portugues Peasant, who by the sweetness of the Urine would tell who were infected with the Plague.

Fonseca de
Excrement.
c. de Urinâ.

Vesalius Exam.
min. obs.
Hallop. p. 91.

The Gall appeared in great variety to Vesalius:
Longum sane esset, ea que in quibusdam tertiana & quartana laborantibus, & dein suspendio aut capite plexis, in furiis & mania oppressit obsessis, in melancholia morbo effectis, ex variis februm (quæ continuæ fuerunt, & rigorum & sudorum inordinatos circuitus faciebant) generibus extinctis, fædo iætero, eoque vario vexatis, malo habitu diu pressis, & dysenteria cruciatis,

ciatis, subinde reperi, modo commemorare: Sive sci-
 licet hic insignem bilis nunc flammæ, nunc atramenti
 quo scribimus in modum atræ, sive albicantis prope-
 modum colorem (qui fere conterminas partes inficeat).
 sive fluidam, aut luti modo, aut unguenti cujusdam ex
 farinis & melle & terebinthina apparati ritu consi-
 stentis substantiam, sive varias calculorum effigies, (sive
 bilis vesiculæ molem instar duorum pugnorum ob con-
 tenta tumidam, sive omnis bilis defectum, recenserem.
 Quæ omnia me de hujus vesiculæ natura adhuc magis
 quam antea habent sollicitum, As to the Pancreatick
 juyce its variety is no less observable: So for the Phlegm,
 and Blood it self.

Regner. de
 Gress de
 succo pan-
 creatit. §. 65.

Having said thus much in behalf of the *Ancients*
 against some *Dullmen* of this Age, who laugh at any one
 that mentions but those *Humours*, I might proceed to
 demonstrate *practically* their *several motions* in *disea-*
ses, and justify the *Medicinal Documents* created there-
 on by such instances as countenance thereunto: But
 the digression would be excessive; I return therefore to
 the principal Discourse, and shall from what hath been
 said erect an *Hypothesis* concerning *Plebotomy* which
 will authenticate the received *practise*, which is so judi-
 ciously and happily followed by all prudent men.

1. If it be true, that there is so great a
 Quantity of Blood in the body, as I have
 evinced, then may we very well suppose,
 that the loss of a few ounces is no great
 damage to the Patient.

2. If it be true, that so great effusions
 of Blood have happened to several per-
 sons

sons without any *subsequent prejudice* :
 If it be true, that *large Pblebotomy* even
usque ad Lipothymiam hath been *success-*
fully practised; then is it evident that our
partite and diminute Pblebotomy may be
safely continued : and that *whatsoever*
illects follow thereupon, the default is
 not to be ascribed to *Blood-letting*, but to
 the indiscretion of him that *ignorantly*
 made use of it, or the *unknown* idiosyn-
 crasy of the Patient, or the over-ruling
Providence of God which disappoints
 frequently the most *rational* and *best Me-*
thods of curing. *Quædam ejus sunt con-*
ditionis, ut effectum præstare debeant: qui-
busdam pro effectus est, omnia attentasse, ut
proficerent. Si omnia fecit ut sanaret, pe-
regit Medicus partes suas: etiam damnato
reo, Oratori constat eloquentia officium, si
omni arte usus sit.

Seneca de be-
 nit. l. 7.

3. If it be true, that there is so great a
variety and discrepancy in the *Blood*, then
 is there no *secure judgment* to be made of
 the

the *Blood* issuing out of the *vein*, either to the *continuing* or *stopping* its *Flux*: But the *Physician* is to proceed according to the *Rules of Art*; and accordingly as *they* direct him, may he *promote*, *stop*, or *repeat* the *evacuation*: A seeming *Cachochymy* in the *Blood* doth not impede *venæsection*, nor call for *purgings*, and *rectifying*: Nothing is *evil* that is *natural* to a man; but real *Cachochymy* or *redundance* of *Humours* offending Nature, this doth call for our *assistance*, and requires sometimes *Phlebotomy*, and sometimes other *Medicaments*.

4. If it be true, that *Sanguification* is an *Animal Action*, if it be true that the *Plastick form* is in being before the *Blood*, and produceth it, and the *whole Fabrick*, and *subsequent operations*; and that the *motion* of the *Heart* is proved by Doctor *Lower* to depend upon the *Nerves* during life: then is there no such *strict connexion* betwixt the *Soul*,
Life,

Life, and *Blood*, as——G. T. doth fancy.

5. If it be true that the *Blood* doth continually *waste* and *spend it self*, in *Nutriments* and *Excrements*; then is it manifest not only that the *loss of a little Blood* partitely taken away is not the *loss of life*, or *prejudicial* thereunto. Neither doth it follow that the *loss of Blood* in a *moderate quantity* is any imminution of the *vital Nectar*: it is neither the *chief residence* or *seat of the Soul*, nor in a *determinate quantity* requisite to the *continuance of Life*, but comes under a *great latitude*: It abounds more in some seasons of the year, and times, than at others: and why may not *Artists* imitate *Nature* in *diminishing* its redundance upon occasion, as *she* does? As long as he proceeds not to exhaust *all*, or *too much*: The loss is *easily* repaired upon *convalescence*, and the *quantity* is more than can be governed by *Nature* in sickness; 'tis but the observation
of

of a *Geometrical* proportion in such a *Plebotomist*. The same *Agent* will produce the same effects: if *Nature* be corroborated, and the vitiated *tonus* of the *concocting* and *distributing* vessels be amended, there is no fear of wanting a *new supply* proportionate to the exigence of the Patient. The *Blood* we take away is no other than what would be *expended* or exhausted *naturally* within a few hours, or days, as the *Statics* shew: and it must needs be considering the *quantity* of *Chyle* which flows into the veins upon *eating* and *drinking*.

6. If it be true, not only that *Nature* doth thus *expend* in *transpiration* and *Excrements* as well as *Nourishment*, much of the *Blood*, and repairs her *defects* by a new *supply* (whereby *Life* is continued, not impaired) so as that the *melioration* of the *following Blood* is rather evident in his first years by his *growth*, *vigour*, *strength* and *intellectuals*: But also that *She* doth of

Botallus de
venæ sect.
c. 15.

S her

Hippocrat.
sect. 3. Aphor.
27. 20.

her self make *men and women* apt to bleed at *some times, ages, and seasons* (which is known to all) then is not the *effusion* of this *solar liquor* so *unnatural* a thing, nor so *homicidal* an Act, as 'tis represented. 'Twould seem a strange *Law* that should punish every *Boy* that breaks the *Head* or *Nose* of another as a *Bronchotomist*, or *Cut-throat*.

If it be true, that *Nature* doth oftentimes *alleviate* even in the *beginning*, and in the *end* cure *Diseases* by *spontaneous evacuations* of *Blood*, at the *Nose*, and *Uterus*, by *vomiting* and *stool*, then a *Physician*, whose business it is to *imitate Nature* in her *beneficial Operations*, is sufficiently *authorised* and *impowered* to practise *due Phlebotomy*, by the *best* of *Presidents*.

Having premised *these Conclusions*, which are all either *proved* in the foregoing discourse, or *evident* in themselves to all understanding men: I shall proceed to give an account of the *Reasons* why *Physicians* do so frequently and in so many *Diseases* practise *Blood-letting*;

ting; and those deduced from its *variety of effects in Humane bodies*: For it is not a *single Remedy* subservient unto one *Indication*, or *End*, but conducting to many, and therefore made use of upon *several occasions* to different intentions. *Utile est id remedium ad quamplurima, & vix potest in ullo magno morbo non esse aliquid, cujus gratia utile sit.*

Valler. Meth.
med. l. 4. c. 2.

Before I come to *particulars*, it is necessary I tell you that in the *cure of all diseases* Physicians propose unto themselves sundry considerations: they regard the *disease*, the *antecedent causes*, and the *symptomes* which attend or will ensue thereupon either *generally*, or in such an *individual constitution*: they employ their cares to *prevent* some inconveniences, as well as to *redress* others. Some remedies they make use of because they are *necessary*; of some, because they are *beneficial*, yet may the disease ('tis granted) be cured otherwise, in case the Patient have a *reluctancy* thereto, or for some *private reasons* the Physicians esteem it fitting to alter their course. Upon this account 'tis assented unto, that many distempers *may be cured without Phlebotomy*, which yet are *ordinarily cured with it*, or may be so: And herein the *disagreement of Physicians*, or *different procedures* are all according to their *Art*, nor is it denied but that *All of them may atchieve their ends by their several Methods*. So that it is a gross *paralogisme* for any one to conclude *this or that Physician* is mistaken, or takes a wrong course, because *another* takes or prescribes a *different one*. All the Physicians in *Spain, France and Italy* do not bleed with *equal profuseness*: In *Germany and England* some do practise more frequent *Phlebotomies*, than others do: and *neither of the parties* do erre, in case the other *remaining Method* be inviolately observed. It is in *humane bodies* as it is in the *body Politick*, where there is a *Method of ruling*, though it be carried on by *several wayes*

and means; and whilst each *States-man* doth prudentially sway the Government, procuring *peace* and *plenty* to the Subject, his conduct, though it vary from that of his Predecessour, is not to be blamed. It is not to be doubted but that many *grievous distempers* are cured by *Nature*, without the use of any remedies at all: Yet will no *wise man* adventure his life on such *incertainties*: 'tis not to be denied but some are cured with *fewer Remedies* than others are: But yet 'tis not *prudence* to put *Nature* upon *too great a stress*, or to account all means *unnecessary* which are not *absolutely requisite*, or without which the *effect* may (though with *more difficulty*, and *hazard*) be brought to pass. It lyeth upon the *Physician* therefore to pursue *all those means* which may *secure* the life of his Patient, to *alleviate* the disease in its course by preventing all *troublesome* and *mitigating* all *dangerous* symptoms, and to *facilitate* as well as *hasten his recovery*. It is not questioned but Patients *have been* and *may be* recovered of Feavers with *little* or *no blood-letting*; yet when I consider the *great hazard* they run in *that course*, the *vexations* and *perillous symptoms* which they languish under *longer* and with *more violence* than others, I cannot approve of the *practise*, nor think the *Physician* discharge his *duty* and a *good conscience* in so doing: *Extrema necessitas in moralibus, ut certum est, vocatur, quando est probabile periculum*: and the Patient doth offend against himself, if he refuse to take a *befitting course* against dangers that *probably* are impending: and the *Physician* doth trespass against *his neighbour*, if he do not propose and practise such a course. " I cannot (to use the words of the incomparable *Riolanus*) I cannot without *pity* to the sick, and some *resentment* against the *Physician*, read in *Platerus's* Observations, how sundry of his Patients were broyled and torrefied with *burning Feavers*, whom he never let *blood*. He doth relate of himself, how he was sick of

Riolanus de
circulat sang.
c. xx. Antho-
pograph.
p. 585.

Platerus Ob-
servat. l. 2.

' a most burning Feaver, yet did he never so much as let
 ' himself blood therein, albeit that it were requisite in
 ' those cases. Such are not obliged to their Doctors,
 ' but peculiarly to the *Divine Providence* for their re-
 ' covery.

It was the *mature* consideration of that tenderness wch
 is requisite in *Physicians* towards their *Patients* which
 advanc'd the *present course of Physick* to its glory above
 all other *Methods*: it being endeared to our esteem by
 all those regards that represent it as *prudential*. It was
 not introduced by *chance*, or the *subtlety* of some per-
 sons, but the *choice* of all, and so established by the *Ma-
 gistracy*, that to transgress against the *traditions of this
 Art*, was criminal in a *Physician*, even by our *Laws*. It
 may in some cases seem to be troublesome and unplea-
 sant; yet SAFETY requires it: It may seem te-
 dious sometimes by multiplication of *Medicines*; yet
 Prudence obligeth by all those means to preserve
 and secure life; and if the omission thereof be cri-
 minal in a *Physician* (in case of any sinister accident,
 why is not the practise laudable? Would Men but
 seriously consider *How much danger they run*, and *How
 much more they suffer* upon the negligence or indulgence
 of a *Physician*, who leaves all to Nature, and adviseth
 them to wear out a distemper, they would rather hate,
 than love such a Man; and the apprehension they
 should have for the unnecessary jeopardy he put
 them on would extenuate his credit very much: The
 most rash and brutish counsels may succeed well; but
 yet the most prudent are to be preferred.

Amongst *Physitians* (I do not reckon the *Helmonti-
 ans* as any) there is no doubt but a *Plethorick in-
 disposition* requires *Phlebotomy*; Nature being sur-
 charged with blood forceth us thereunto, lest some
 vein should break in the *Lungs*, or the Patient be
 strangled with that excess: this is called *Plethora quoad
 vasa*: when the vessels are so full of blood, that there
 is

is danger of their *breaking*, or that the *blood* should stagnate in the *Heart*, *Lungs* or *Head*, there wanting room for its *motion*: or take some *inordinate course*, and so strangle the Patient.

There is another *redundancy* of *Blood* which is called *Plethora quoad vires*, or such a *plenitude* of *blood* as brings along with it no apparent *hazard* of *breaking* the *vessels*, yet doth it oppress *Nature* so as thereby to become *redundant*: It is more than she can bear in the present *juncture*; 'tis more than she can *rule*, and it will suddenly fall into an *exorbitant motion*, to the detriment of some *principal part*, in case timely *prevention* be not used. In both these cases (in which the *blood* is not supposed to be much *depraved* from its *natural estate*) all do allow of *Phlebotomy*, and if it be timely put in execution, it may hinder the *progress*; however it *expedites* the *cure* of the *disease*. In these cases we consider not only the present *plenitude*, but also the *future*, what may be in a few *dayes*, to the great *exasperation* of the *disease*, and *peril* of the Patient: For it is possible that in the first *beginnings* of a *disease* there may be neither of these *plenitudes*, but they may ensue a little after: For when the *insensible transpiration* shall have been a while abated (as *inquietude*, *pain*, and *watching* will abate it) the *Blood* degenerates, and no longer continuing its usual *deuration*, those *excrementitious particles* which were lodged in the *habit* of the *body* and *pores* do remix with the *sanguine mass*, and become like so many *fermentative corpuscles* agitating and *attenuating* the *blood*, so that whereas before there was no *plenitude*, now there is: that the *excrementitious particles* do contract a *fermenting heterogeneous* quality different from what they had in the *Blood* appears hence, that those which *sweat much* (as the *new-comers* in the *Indies*) their *sweat* is less *noysome* and *bilious* by far, than it is in those that *sweat more seldome*: Thus *soot* is a different body from

Sanctor. Med.
Static. sect. 1.
aphor. 41, 49.
sect. 4. aphor.
7, 8.

from any thing that is burned. Hence it is that those particles being *reimbibed* into the blood are so offensive to the *nervous parts*, and introduce a *lassitude*, as if the body were surcharged with a *plenitude*. Besides these two cases in which *Plebotomy* seems to be *directly* indicated by a *Plethora* or *surcharge of blood*: It is practised in other cases by way of *revulsion* when the *Blood* and *intermixed Humours* flow into any *determinate part*, or are *fixed* there as in *Apoplexies*, *Squinancies*, and *Plurisies*: for as upon *dissection* it is manifest, that in such diseases there is a *greater efflux of Blood* than upon other occasions, so it is evident by *long experience*, that *Plebotomy* doth alter its course, and draw back the blood so as that sometimes after that the first blood hath run more pure and *defecated*, the subsequent hath been *purulent*, as if the *conjunct* cause of the *Plurisie* or *Squinancy* had been *evacuated* thereby. In reference to such *fluxes of the blood to determinate parts*, we usually consider what in *all probability* may happen, as well as what is at present *urging*: and therefore for *prevention thereof* we let blood upon great *contusions and wounds*. It is also practised by way of *derivation*, when we let blood near to the *affected part*, thereby to *evacuate part of the imparted matter*: Thus *Van der Heyden* did frequently let his Patients blood in the same foot for the *Gout*: Thus in a *Squinancy* to open the *Jugulars*, it is a *derivative Plebotomy*. In all these cases all *Physicians* agree to the received practise: but in case that the *disease* be not merely *sanguine*, but seem to arise rather from a *Cachochymy*, or *redundance of evil humours*, than any *plenitude*, or *exorbitant motion of the Blood*: here many *Physicians* cry up that Rule: That *Plethorick Diseases* require *Plebotomy*, but those that arise from a *Cachochymy* require *expurgation*. Here they accumulate a multitude of *Arguments*; and undoubtedly, since so great men are of that side, it must needs

Sanctor. Med.
Static. sect. 4.
aphor. 10, 11.

Van der Heyden
Synopsis.
discurs. disc. 2.
de potu frigido.

needs be that *they have cured those diseases without Phlebotomy*. But the contrary practise hath so many abettors whose credit equalleth or exceeds that of the others; and *Experience* in a multitude of cases hath shewed the great efficacy of *Blood-letting* in a *Cachochymy* or *meer impurity* of the *Mass of Blood*: and so prodigious is the efficacy thereof in promoting *transpiration*, and opening all the *emunctory passages* of the body, in preventing of *putrefaction*, and expediting of the *concoction*, and in refrigerating the whole habit, that *Hippocrates* and *Galen* did resolve it in general, That *whensoever any great Disease did seise upon any Person*, if he were of *Strength* and *Age* to bear it, he ought to be let blood. The *Arabians* dissented from this practise, but *Massari*as (after *Jacchinus* and the *Florentine Academy*) did prudently revive it, and solidly defend the *Tenet*: and the happy *Cures* did so convince the *World* of the truth of their *Affertions*, that all *Italy* in a manner was presently reduced under them, and *France* and *Spain*; so that though they did, and do still in *Spain* and *Italy* retain *Avicen* to be read in their *Universities* as well as *Hippocrates*, yet herein they have abandoned the *Arabians* and they which do adhere to that old *Maxime* of purging out the *evil humours*, when they abound, do also comply with the *Hippocratical* practise, and by new excuses accommodate it to their principles: So that as to most diseases 'tis agreed (though upon different grounds) what may or must be done. Few now are so timorous in bleeding as heretofore; and where that apprehension is still continued, the *Physicians* rather comply with the prejudicate conceits of the people, then act out of Reason. He that can doubt the strange effects of bleeding, notwithstanding the concurrent judgment of *Physicians*, let him either read over *Prosper Alpinus* concerning the *Physick* practised in *Ægypt* amongst the *Turks* (where *Phlebotomy* is the principal and

and frequently the sole remedy) or advise with any Farrier, and he will be satisfied that in a Cachochymy nothing is more beneficial, though it be particularly said of Beasts, that the Life or Soul is in their Blood. For my part I am sufficiently convinced of the solidity of their judgment who do much use Phlebotomy, and I have frequently observed that the best Medicaments have been ineffectual till after Phlebotomy, and then they have operated to the recovery of those Patients who found no benefit by them before: so that to begin the cure of most diseases therewith is the most ready and certain way of curing them: and to make that previous to purging, is the direct course to purge with utility. 'Twas most Oracularly spoke by Vallesius.

Facile concesserim venæ-sectionem esse optimum omnium auxiliorum quibus Medici utuntur. Est enim valentissimum, & maxime presentaneum, & multiplex. Dica autem multiplex, quia & vacuans, & revellens, & refrigerans, & venas relaxans, & omnem transpiratum augens, quam ob causam (& est a Galeno valde celebratum) in nullo magno morbo non est opportunum, si vires ferunt, & puerilis ætas non obstat.

When I considered the strange efficacy of blood-letting in several diseases, and that the discovery of the Circulation of Blood had rendered most of the Reasons which were formerly used to be more insignificant, or false: I was not a little surprised. I observed that the effects were such as did exactly correspond with their Hypothesis, and that the practise was not faulty or vain, though the principles were: - neither ought any man to quarrel with or laugh at such Arguments as ('tis certain) will guide a man rightly to his utmost ends. 'Tis a kind of impertinency that swaves this Age; for 'tis not so much a Physicians business to talk; but to heal.

It was most judiciously said long ago, " Ac nihil istas cogitationes ad Medicinam pertinere, eo quoque sensu disci, quod, qui diversa de his senserint, ad eundem ta-

So Blondellus could not with all his Skill cure the Marquess of Caure till he did bleed him: in a chronical terrible dysentery: which he confesseth, though he writes against Phlebotomy in Epidemical dysenteries. Valles. meth. med. l. 4. c. 2.

G. Celsus Medicin. in preli.

men sanitatem homines perduxerint. — Itaque ingenium & facundiam vincere: morbos autem non eloquentia sed remediis curari. Quae si quis elinguis usu discreta benenorit, hunc aliquanto majorem Medium futurum, quam si sine usu linguam suam excoluerit.

Neither did Hippocrates place any great value upon Philosophical curiosities, and Natural discourses, but esteemed it very well in Physicians if they could demonstrate by their success the solidity of their judgment,

Hippocrat. de
Aste. c. 23.

ἢ ἐὰν ᾗ λόγον ἐμδεικνύσαν· ἢ τὸ λέγειν καταμαρτυρήσας, ἀλλὰ τὴν πίσιν
τῷ πλήθει· ὅς ᾗ ἂν ἔδωκεν δικαιοτέραν ἡγούμενοι, ἢ ὅς ᾗ ἀνέσται.

I resolved with my self, that if the Circulation of blood and other modern discoveries taught us but the same practise we already followed. it was useless; If it contradicted it, it must be false: I observed that it was the great work of the wiser Novellists to accommodate the new Theories to an old and true way of practise; and perceiving, that the effects of Phlebotomy were such as the Ancients insisted on, I perplexed my self in considering what there might be therein to produce so different effects: I abstracted from all common Principles, and called to mind the Opinion of the Methodists, who were a judicious sort of Physicians, and the most prevalent at Rome in Galen's dayes. They held that Diseases did not arise from peccant humours, since many lived, and lived long with Cachochymical bodies: and in diseases if in the beginning a multitude of humours (and such as Physicians ascribe the disease unto) be evacuated by vomit, sweat, or stool, yet the distemper continues, and becomes worse and more dangerous by reason of such evacuations: As little did they regard the first qualities of heat and cold, siccity humidity, concluding them to have no immediate effect in producing diseases, but as they varied the symmetry of all or any parts of the body: the grounds they went upon were such as were deduced from that Philosophy which makes Rarity and
Density

Density the principles of all bodies; and they placed Health in such a conformation of the body, and such a configuration of particles as did best suit with its nature: they held that the intertexture of the minute particles of our bodies were such as admitted of an easie alteration, the fabrick being so exquisitely interwoven, not only in the solid vessels, and parts, but a commensuration of porosities every where, the alteration of which texture of the body into a great laxity, or streightness, and this change of the pores did they make the great causes of all Maladies, and the restoration of them

to be the way to sanity, and this they called παρασκευαστος & μετασκευαστος, or the variation of the texture and combination of Corpuscles, in the symmetry whereof they placed Health, and in the asymmetry or improporionate and incongruous state whereof they placed all Sickness. It was their Tenet, that amongst those Remedies which did most alter the texture of the body from streightness to laxity, the most powerful were Phlebotomy, and Purging, and that their principal effects were not meerly to evacuate such or such peccant Humours, but in doing so to create a

new Texture and configuration of Corpuscles in the whole Body, and therefore they held them to be General Medicaments, and of use in most great diseases, since such distempers were rather occasioned by a streightness than laxity of the pores, and even such as were laxe one way (as Dysenteries and Diarrhæas) might be accompanied with a streightness in the habit of the body. This Hypothesis (for the further explication whereof I remit you unto Prosper Alpinus) having been of great renown, and most accommodated to the course of life by which the Romans (and since the Turks and others that follow not our Physick) did preserve their Health, and recover their Maladies, did merit my re-

T 2

Διὰ τὴν ποσὴν τῶν τεσσάρων καὶ πλεονάζοντες ἀνορίστως ἔχουσιν: ὅτι ἐν συμμετρικῇ πρὸς ὅτι ὡς ἐν συμμάχῳ καὶ κοιλίᾳ πόρων: ἐν συμμετρικῇ εὐλογῶν ἔχ' ὑπὸ μίαν, ἢ πρὸς ἀσάντων ἐμπλέκον ὅς πόνον, ἢ μύοντων.
Cassius in problem. 71.

They seldom used purging, imagining it not fit till the body was prepar'd, and humours concocted: but they made much use of vomits.

gards:

gards : and I observed the *truth* of that part of *their Opinion*, which avows that *purging* and *bleeding* have *further effects* than merely the *evacuation* of *Blood* and *other Humours* : that *they* had such an influence upon the whole body as to restore and promote all the *natural evacuations* of the body by its *several emunctories* and *pores* ; and that *Phlebotomy* did particularly incline to *sweat*, promote *urine*, (and sometimes instantly allay its *sharpness*) and make the body *soluble*, so that upon *Phlebotomy* there needs no *antecedent Glyster* :

Valles. method. medend.
l. 4. c. 2.
Gregor. Horstii Instit. Med.
di. p. 18. Coron. de venar
sect. qu. xi.

Any man that is conversant in *Physick* knows that such *purges* as operate on the *blood*, promote *urine*, and *sweat*, and *transpiration*, even during the *working* ; for those very *qualmes* the *Patients* feel are an effect of *Diaphoresis*. *Lipothymia* juvet : quia sudorem. & validam perspirationem facit. Sanctior. Med. Stat. sect. 1. Aph. 98.

Neither is it convenient in a great *Cacochymy* to *purge* before *bleedings* ; not so much for fear of *irritating the Humours*, but that the *purge* operating so as to *attenuate* and *alter* the whole *mass* of *blood*, and promote *secondarily* all *natural evacuations* ; without *preceding Phlebotomy* it is scarce *safe* (not *secure*) to *purge*, except in bodies the *laxity* of whose *texture* is easily restored, or with gentle *Medicaments* : for the *Humours* being powerfully wrought upon by the *strong purge*, and inclined to be expurged by their *several emunctories*, and those being either *defective*, or the *veins* and *arteries* too full to admit a greater *rarefaction* in the *mass* of *blood* (which is requisite to

their *separation* and *transpiration*) hereupon there happens a dangerous *Orgasmus* or *turgency* of *humours* in the *sick* : which *Phlebotomy* doth prevent. And 'tis I conceive in reference to this alteration of *texture* that *Hippocrates* saith, Τα σκληρὰ χερὰ, ὅτε αὐτὸς βλάπτει καὶ δακ.

Hippocrat.
S. 2. aphor. x.

περὶ, ἐν ἑαυτῷ ποιεῖν. I observed a great congruity betwixt the *Static observations* and those of the *Methodists* ; and that *Sanctorius* hath a multitude of *Aphorismes* which agree with them : viz. That such bodies as *transpire* well in the hottest weather, they are lighter, and not troubled with any vexatious heat. That nothing pre-

Sanctor. sect. 1.
aphor. 104.
Id. ibid. sect. 2.
aphor. 28.
S. 1. aph. 110.

vents

vents putrefaction like to a large transpiration, In fine,
 I did observe that it was the general sense of Physicians,
 that Phlebotomy did draw the Humours from the Centre
 to the Circumference, and I had taken notice of it al-
 wayes in my self; even in the Colick bilious, when I
 was tired out with pains, vomiting and want of sleep
 (when I took no Laudanum) and reduced to extream
 debility and emaciation, I determined in that forlorn
 case (having used all other means for several weeks)
 to bleed so long (yet partitely) as that I might be
 freed from a most troublesome pulsation of the descend-
 ing Artery, below the reins: I bled eight ounces at first,
 and found a vextious heat in the whole habit of my bo-
 dy: I repeated the Phlebotomy in the afternoon, and
 was very hot all night: thus I continued to bleed
 twice each day for three dayes, loosing above sixty
 ounces, and then fell into sweats, was eased totally in
 my back, and afterwards recovered with a more fa-
 cile Paresis in my Armes (and no contracture) then
 that disease commonly terminates in there. These
 considerations made me think that there was some
 more important effect in Phlebotomy than the evacua-
 tion, derivation and revulsion of the Blood and other
 Humours; and that it must consist in promoting that
 Statical transpiration: and I conceived that the
 Blood was in perpetual motion, and though Motion
 doth hinder Fermentation, yet I had observed that in
 Pipes at Omburne Abby, where the drink runs from the
 Brew-house to the Cellar (to be tunned up) the Fer-
 mentation continues so (especially in the stronger
 drink) that the Pipes frequently break therewith, as
 rapid as the motion is: I did not imagine that the na-
 ture of the Blood was such as to be exalted into one
 Uniform liquor resembling Wine, (for such a liquor
 would not be liable to such sudden changes and altera-
 tions from one extream to another) but that it was a
 miscellary of heterogeneous liquors in a perpetual dige-
 stive

I did herein
 follow Galen,
 and those
 that represent
 Phlebotomy
 as a great
 And-
 dyne:
 and particu-
 larly Celsus
 concerning
 the Colick in
 Poitiers.

stive fermentation and depuration by halituous particles arising from it (as in more gross by the emunctories) which if the conformation of the pores and passages be such as to give it due vent, all continues well: if they be obstructed or vitiated then several maladies ensue, except timely prevention be used: I conceived that in Phlebotomy as the Blood issueth from the vein, so (as in the pouring out of other liquors) the Air comes in by the orifice, and mingling with the Blood produceth as great, or greater effects than in the Lungs when it mixeth there with the Blood, invigorating it in an unexpressible way, whence we commonly see that the pulse grows stronger and stronger during the bleeding: and upon this account I think it may happen that bleeding with Leeches though equal quantity be taken away, oftentimes does harm, never alleviates so much as Phlebotomy: and such persons as by reason of their tender habit of body cannot bear a violent transpiration, swoon not by bleeding in water, (though otherwise they do) by reason that the great effects of the Air upon the Blood are impeded by the ambient water: the like happens in Scarification with Cupping-glasses; and in bleeding with Leeches. I did suppose that oftentimes in a Plethora quoad vires, transpiration being hindered by the change of the texture of the Body, the not-exhaling particles remix with the Blood, and there also happens a subsidence of the vessels, and change of the porosities, so that the Fermentation is is not only clogged with morbose particles of several sorts, but so hindered by the subsidence or compression of the vessels and alteration of the pores, as not to be able to ferment (for freedom of room is necessary to Fermentation) nor transpire, nor continue its due course, nor by reason of the charge of porosities confer aliment aright, so that a Plethora ariseth hereupon. But as soon as the vein is breathed, and the Blood (as in your common water-pipes when a Pipe is cut) acquires a more free

Kergerus de
ferment. sect. 1.
c. 9. & sect. 2.
c. 8.
Willis. de fer-
ment. c. 6,

free passage that way, it presently becomes more rapid, and its motion also is accelerated by the fuliginous exhalations hastening to the vent, together with the natural Fermentation resuscitated, and so the whole body by a natural coherence and dependance, is not only evacuated, but altered in its minute texture, and conformation.

It is most evident that the Blood in the Veins and Arteries is conveyed as it were in conduit-pipes, the Heart being the great Elastic Engine which drives it, being fed by the vena Cava, and disburthening it self by the Aorta: though even the motion of the Heart depend upon a Superior influence by its Nerves, which wherein it consists and how derived from the Brain and Soul, is a thing to us incomprehensible. I do suppose that the Circulation is continued and carried on principally by Anastomoses betwixt the Capillary veins and Arteries, many whereof having been discovered by Spigelius, Veslingius and others, the rest may well be supposed: and perhaps in the coats of the Veins and Arteries there may be a certain texture requisite whereby the transpiration is managed in order to the safe continuance of the digestive fermentation in the Blood, and the nutrition of the body. The impulse of the Heart, together with the pulsation, is sufficient to convey the blood to the lesser capillary Arteries, and there though the pulse be lost (which yet a little inflammation in the extremities of the body will make sensible, and in some Ladies, as also in Children, the least preternatural heat) yet it is impelled by the subsequent blood still into the veins, and having acquired by the common miscele in the Heart and the digestive fermentation (which naturally ariseth in such heterogeneous liquors) an inclination to expand it self, the compression in the Capillary vessels adds to its celerity of motion when the larger veins give liberty for it: the Aairy corpuscles of several kinds (which are casie to be

This is agreeable to the Hypothesis of the Methodists,

be discovered upon burning) by their expansion; and contraction adding much thereunto: Thus in *Water-engines* the narrowness of the Pipes do add to the impetus with which the *Water* issues forth: And I do conceive (by the *Phænomena* which daily appears in practice) that the *Animal heat in the Blood* actuating that heterogeneous mixture, and according to the diversity of its parts producing therein (with the help of its fermentation) a rarefaction of what is airy; and, according to the room there is, a liberty or inclination to expand and evaporate themselves, this is the principal cause of the continuance of the motion of the blood in the veins, and of its saliency upon Phlebotomy. Thus upon Scarification there is no salience or spurting out of the blood, there being no room for such an expansion, or for the *Aiery halituous* parts (in which there is as great a difference as in those exhaling from the *terrestrial Globe*) to rush forward out of the continued Arteries and together with themselves to protrude the blood: Upon this account the *Methodists* and old Physicians (as also the *Egyptians*) where the tender bodies and constitutions of Children and Women or Men admit not of, or requireth that great relaxation of the pores and texture of the body, which a more robust and firm habit (wherein as the natural resistance in health is greater, so the recess from it in a bad estate is much greater) would be cured by, they use these Scarifications, and prefer them (most judiciously) to Phlebotomy.

This constitution of the Body doth evince the great utility of Phlebotomy, and best (as I suppose) explicates the effects thereof which we daily experiment. From hence not only is manifest how the Body is evacuated in a *Plethora*, but in case of *Rebulsion*, and *Derivation*. It is manifest in *Aqueducts* and *Siphons*, that the *liquors* (though much differing in nature from the Blood, nor so inclined to evaporate) does
accelerate

accelerate their motion, and issue out so rapidly upon an incision or fracture in one of the Pipes, that a lesser in such a case will deplete the greater, notwithstanding its free passage in its own entire Canale. Thus the most learned and considerate Physician, Sir George Ent, having observed first thus much. “ *Videmus aquam per si-*

Apolog. pro
circul. sangu.
sect. 23. p. 62.

phones delatam, si vel minima rimula hiscat, foras cum impetu prorumpere. And, “ *Sanguis per aortam ingressus, fluit porro quocunque permittitur, peraeque sursum ac deorsum, quia motus continuus est: quemadmodum in canalibus aquam deferentibus contingit, in quibus, quocunque feruntur, aqua continuo pergit moveri. Quare nugantur strenue, qui protrusionem hujusmodi non nisi in recta linea, fieri posse arbitrantur.*

Id. ibid. p. 107,
108.

After this He explains the doctrine of Revulsion in this manner. “ *Quae postea de revulsionibus dicuntur,*

Id. ibid. p. 179,
180.

nullum nobis facessunt negotium. Tantundem enim sanguinis a pedibus ascendit per venas, quantum ad eisdem delabitur per Arterias. Facto itaque vulnere in pectore, aut capite, revulsio instituitur (si modo tam longinqua instituenda sit) in crure. Quia sanguis alias quoquo versus ruenens, facto nunc in pede egressu, copiosius per descendentem ramm, procul a vulnere, delabitur. Non enim arbitramur, sanguinem aque celeriter sua sponte per arteriam aut venam fluere, atque is secta earum aliquo effluit. Nec sanguis ad latus pedis aut caput, per venam cavam impetu affluit, quia fluxus ille aperta inferius vena intercipitur.

I do acknowledge that the reading of these passages did first create in me the thoughts I now impart unto you: And hereby it is evident how the Ancients (with their large Phlebotomies) might derive even the morbidick matter, or revell it, though impacted. Our minute Phlebotomies do seldom produce such an effect; for since it is not otherwise done, but by a successive depletion out of the Arteries, it would seem necessary to extract three or four pounds of Blood to effect such a matter:

solu

V

Neither

Neither indeed is it *necessary*: albeit that I believe the most *speedy cures* (but *great judgment* is requisite in such operations) were *achieved thereby*: for though we do not *retract the Humour, or Blood* unto the place *where we Phl. botomise*, we do *revell it from the place whither it was flowing*: and the *course of the Blood and Humours* being *diverted*, the *Arteries* leading to the part *affected or depleted*, and the *Flux of Humors* (which was *by them*) is *abated*, their *tenseness* there (which appears by their *pulsation* there where they did not *beat* before) is *relaxed*, and so becomes less *opportune to extravasate* either the *Blood* or other *Humours*: whereupon *Nature* it self *alone*, or with a *little help* of the *Physician*, doth *digest and dissipate* the *impacted matter*. Whereupon if we add the *motion of restitution* in the parts *affected*, which is hereby *facilitated*, the *great change* in the *digestive fermentation of the Blood* (which is *manifest* by the *melioration* of the *Blood* which is seen in repeated *Phlebotomies*) and the *relaxation* of the *whole body* in order to the *transpiration* and other *depuration of the Blood* by its *several Glandules, the Kidneys, Liver, Guts*, the reason of those *prodigious benefits* which *Patients* have had of *old*, and now under our *practise*, is *manifest*; nor do we want a *justification* for *reiterating Phlebotomy*, or *exercising it in different veins*, and *divers manners*.

I designed long ago to set aside some *spare hours* to a further study of this *Hypothesis*, and in order *thereunto* to acquaint my self with the *Hydraulic Arts*; as also to examine the *truth and solidity* of the *Static Experiments*: (out of which this *texture of the Body*, the *digestive motion* of the *Blood*, its *change*, and *restitution*, is *demonstrable*) and to enlarge my *prospect* by a comparison of the *several Methods and Medicaments* used

The alteration of the *texture of the body* is no less *evident*, out of *Dietetical observations*: of which I have made *many*, and did intend once to *prosecute* for these *inquiries*; as also the *discovery thereof* in *dead bodies*.

used by sundry Physicians (both Methodists and others) in order to the cure of diseases, and preservation of health: But I must tell you that the malice of my enemies renders my LIFE and Condition so ill-assured; And the apprehensions I have least the Projects of Campanella are powerfully and subtly driven on in this Age (I am the more confirm'd in my suspicions; in that my Adversaries are most intent to ruine me, but not to remove those Umbrages) together with the imminent subversion of the Faculty of Physick by the toleration of Divines to practise (which is contrary to the Ecclesiastical Canons, and makes them irregular) the great encouragement of Quacksalvers, and Baconical Physicians: These reflexions have so discouraged me, that I have no mind to pursue those studies, or to be much concerned for the present on succeeding generation: But could I see Physick regain its lustre, the Faculty encouraged by such Acts of Parliament, as our Predecessors, and Forreign Potentates have made, and your Colledge advanced as the proper and Supreme judicature in reference to Medicine, I would willingly imploy all my leisure in the improving of the present state of Medicine, without subverting Learning, or disparaging the Ancients, without the knowledge of whose writings 'tis impossible for any man to be excellent in Physick. Poets and Comical Wits owe more to their Birth, and need less of industry, study and judgment, than Physicians: The knotty Staffe, the Serpent, the Pine-apple, the Dog, the Dragon, the Cock, with which the pourtraicture of Æsculapius was beautified, were not Symbols and Hieroglyphics of a facile study: The first Principle that we are taught is, Ὁ βέλτερος ἢ δὲ τέχνη μακρὴ, ἢ δὲ καὶ τοῦ ὄντος, ἢ δὲ πᾶσι σφαλερὴ, ἢ δὲ κρίσις χαλεπὴ. But now the reading of two or three Books, a Comical Wit, a Bacon-face, a con-

I intend some time this Summer to write a discourse concerning the Unlawfulness of Divines to practise Physick.

Vide Meibomium in sur. Hippocrat. c. 5. Io. Laurent. dissert. de Æsculapio.

Χρὴ μὲν γὰρ, ὅστις μέλλει ἰατρικῆς εὐνεεῖν ἀτρεκέως ἀσμοζέσθαι, τὰ δὲ μὴ ὀπίσθον γινέσθαι φύσις διδασκαλίας, τό τε ὑπερῆς παιδομαθίας, φιλοπονήας, χρενῶ. Hippocrat. lege. c. 2.

tempt of Antiquity, and a pretence to novel Experiments (which are meer excuses for Ignorance, and Indiscretion) are sufficient Qualifications,

Notwithstanding the *Melancholy* and *pensiveness* into which the *present posture of Learning here in England* alwayes puts me into, when I reflect thereon : I will constrain my self to proceed further, and examine the cases of *Phlebotomy* in a *Pleurisie*, the *Small-pox*, and *Scurvey* : concerning all which *diseases* as I shall debate what an *Intelligent Practitioner* may do, nay is oftentimes obliged to do in conscience, and out of discharge of Duty to his Patient, so I will not justify any *Action* of those persons who *understand nothing*, nor can *distinguish circumstances* in particular cases : A thousand things are to be considered by him that would *practise Physick* exactly, the *present disease*, the *past condition of the Patient* in reference to *himself*, his *parents*, his *diet*, *preceding distempers*, the *latter*, the *more remote*, the *conjunct causes* ; what *hinders*, what *promotes*, what *effects* the cure : What *will*, what *may happen* in the disease, what *will* or *may ensue* upon recovery : In all these cases, since he hath not a *sensible and easie knowledge* thereof, but must proceed upon *Conjecture*, you understand well *How great a comprehension of affairs*, and *how much in each case*, he must *inquire into*, who will discharge well the duty of a *Physician*. It was prudently said of the incomparable *Aristotle* (the *meanest* of whose Works deserves to be read above all that the *Novel Experimentators* have published ; if it were but for the *wise Apothegmes* therein : for *Civil Society* is the grand work of this Life ; and that is more *useful*, which qualifieth us *thereunto*, then what makes us admirable *House-trap-makers* !) “ *Physicians*, saith he, *do not cure man in general*, except it be by accident, but *Cullias*, or *Socrates*, or *some other individual person*. Hence even

*Aristot. Metaph.
lib. I. c. I.*

' a man that is a speculative Artist (how much more
 ' those that are neither speculative, nor Empirics ?)
 ' may be deceived in the application of general rules to
 ' singular cases, and so may mistake : He tells us that
 ' it is not for the most dexterous railers, or witty Sophi- Ethicor. l.x.
 ' sters, to judge of State matters, nor yet for any man c.9.
 ' to direct therein : who hath not served an Apprenti-
 ' ship in the Ministry of State : for neither in Phy-
 ' sick, doth the knowledge of a common Praxis accom-
 ' plish a man thereunto : ταῦτα δὲ τοῖς μὲν ἐμπείροις ἀφέλιμα

εἶναι δοκᾷ τοῖς δ' ἀνεπισήμοις, ἀχρεῖα. What is it to the
 purpose, if they learn a multitude of Knick-knacks,
 and have an infinite of Conundrums in their Heads, if
 they know not what appertains to Praxis ? These
 narrow-sighted Verulamians may recommend them-
 selves by success in a few ; the Grave may conceal, or a
 strong Nature amend their defaults ; but they are
 nevertheless ignorant. In a calm many can steer a
 ship, whose imbecillity of judgment sinks it in a storm.
 Ἐπεὶ οἱ πολλοὶ γε ἥϊ' ἰντροῶν ταυτὰ μοι δοκέουσι τοῖς κακοῖσι κυβερνήταις, ἐγὼ δὲ τῷ
 ἰεὼν μὲν ὅσα
 τινὲ ἐρεῖαι
 σοφιστῇ, ἢ
 ἰντροῶν, ἢ γέ-
 γραπτοῖ πε-
 ρὶ φύσις,
 ἥσων νομίζω
 τῇ ἰντροῶν
 τέχνη προ-
 σήκειν, ἢ
 τῇ γραφικῇ.
 πάχειν καὶ γὰρ ἐκείνοι ὅταν ἐν γαλήνῃ κυβερνῶντες ἀμαρτάνωσι, ἢ κατα- Hippocr. de
 veter medi-
 cin. c. 17.
 φανέες εἴσιν ὅταν δὲ ἀνέως καλᾷ καὶ ἀνέως τε μέγας καὶ χεῖμων, φανερώ-
 ῃ δὴ πᾶσιν ἀνθρώποισι δι' ἀγνοσίην καὶ ἀμαρτίην δῆλοι εἴσιν ἀπο-
 λέσαντες τὴν ναῦν ἔτω δὴ καὶ οἱ κακοὶ τε καὶ πλείστοι ἰντροῖ, ὅταν μὲν δε-
 ραπεύσωσιν ἀνδρῶντες μηδὲν δεινὸν ἔχοντας, ἐς ὅς ἀν τις καὶ τὰ μέγιστα
 ἀμαρτάνων ἑδὲν δεινὸν ἐργάσαιο πολλὰ δὲ τὰ τοιαῦτα νοσήματα καὶ
 πολὺ πλέον ἥϊ' δεινῶν ἀνθρώποισι συμβαίνει Ἐν μὲν δὴ τοῖσι τοιούτοις
 ἀμαρτάνοντες ἢ καλὰ φανέες εἴσι τοῖσιν ἰδιώτησιν ὁκόταν δὲ τύχῃσι
 μυχάλῳ τε καὶ ἰχυρῷ καὶ ἐπισφαλεῖ νοσήματι, τότε σφραγίσαντα τὰ ἀμαρτή-
 ματα καὶ ἢ τέχνη πᾶσι καταφανής ἐστι.

I have already spoken concerning Phlebotomy in the
 plague : In a Pleurisie 'tis no less evident that Phy-
 sicians are divided in their judgments. To begin
 with

with the true state of the Question: This is more than this Baconical Philosopher did ever think upon; for he without any distinction derives the usefulness of Phlebotomy in a Pleurisie. "If thou beest unsatisfied whether opening a vein as it is indicated from Evacuation, or Revulsion, be a competent sufficient Remedy for the cure of a Pleurisie, or any high Fever; thou shalt find in this short Tract a Resolution in a Negative sense, grounded on Reason, Authority, but especially that which is the sum of all, Matter of Fact delivered according to what Experiments are past, offered to be made good for the future. — Thus he bespeaks his Reader in the Preface: and a little after he assures him, that "He is able to resolve any one that is capable, that the most Plethorick body taken with a Fever, or anyone Cachochymic afflicted with a Pleurisie may be cured without the Lancet more speedily and safely than by using the same. — Though I cannot imagine — G. T. to be good at resolving Controversies in Physick, yet such is his impudence, that I will not refuse him the Title of Doctor Resolutus: I have read over his Book with some attention, but I could not find any Pretensions in it to Authority, nor any Experimental Histories related: All amounts to this — G. Thomson saith, "It is not good to bleed in a Pleurisie. And — G. Thomson avows that "Tis verified by observation, they who recover by this Apostastick means do for the most part find a great debility succeeding, are incident to Empyemas, Consumptions, and prove to relapse into the like condition again. On the other side, those who rise from their sick Beds, restored by vertue of adæquate Remedies, are secured from the forementioned discommodities. Affuredly of all those Pleuriticks, I have handled above these half-score years, I have not known one after their evasion procured by a legitimate form of Physick, either live crasse, fall into secondary calamities, or recidivate

divate into a Languour of the like Idea. ——— This is that irrefragable Argument drawn from past Experiments, which is the Sum of all Proofs, and must satisfy all that are capable : which it is possible it may do, if there be persons in the World that are capable of being resolved hereby : But impossible Suppositions are equipollent to Negations : Assuredly either this Age affords no such Men, or they are a Company of Fools : Who else will give credit to the bare assertions of — G. T? He should have done like his Brother Odowde, printed an account of Cures, though they had been all false and fictitious : but as the case is, he neither cites so much as Van Helmont, and the Peasant that cured Pleurisy with stoned-horse-dung ; but is himself Author and Witness : Thus he bristles most Porcupine like.

Se jaculo, sese pharetra, sese utitur arcu.

This is all I reply to his Authority, and Experiments : His pretences to Reason are no less gain. He says, That when we bleed any Pleuritic, there is no streight immediate Revulsion intended from the part affected to the orifice ——— which is a most TRUE, and Bacon-like Aphorisme ! for we never thought that the Revulsion could be streight, whereas the line in which 'tis made is crooked. If we Phlebotomise in the Arm, (whether it be on the same side, or on the contrary) or in the foot, none was ever so besotted as to avow the Revulsion to be streight, though he held not the Circulation of the Blood : But such as hold that the Revulsion is made thus, in that the Veins draw from the Arteries, and so as in Siphons, divert the stream, they cannot hold any thing like it : nor that the Blood impacted or flowing was immediately revelled, and drawn back : But I am apt to think that some upon large and repeated Phlebotomies may have

See Schenckii.
in obs. l. 2. de
pleurit.
Prosper Alpin.
Medic. meth.
l. 7. c. xi.

1. Heurnius
apud Schenckii
lib. 2. de
pleurit.

have drawn some of the *purulent* and *degenerate* blood out of the veins of the *Arm*; in which there is no more of *impossibility*, than that it should be carried by the *emulgent Arteries* into the *Kidneys*, and discharged by *urine*: which last is avowed to have been done. I do not know that such *large Phlebotomies* in a *Pleurisie* are practised by the *English Physicians*; though I think there is not so much of *Reason*, as *vulgar prejudice* to oppose the *thing*, when the *Doctor* is an *understanding Man*. For why may not we in *England* bear that which they do in *Holland*? there *Heurnius* took away above *four pounds* of blood from one *Plethorical Pleuritic* at one time, in a *dangerous Pleurisie*, and recovered him when all others gave him up for dead. I believe there may be some amongst us that repeat *Phlebotomy* too often; but I am confident the *generality* erre in taking away too little at one time, in the beginning of *Pleurisies* and *Feavers*.

p. 126.
I would willingly know of this *Helmontian*, whether it be a *Rhizotomous* cure, when Nature doth put a period to a disease, by an eruption of blood at the nose? Here is no *dulcification* of the acid *Latex*; no *rectification* of the *stomach*; and no other *mortification* of the *malignity*.

His next Argument is, that the Cure by *Phlebotomy* is *accidental only* and *uncertain*: sometimes in the beginning they do thereby suppress the disease, and as it were crush it, but it is a *contingent*, not at all *Rhizotomous Cure*, which ought to be performed by those things which are *Purgæ*, *dulcifying* the acid *Latex*, carrying it off through all its *emunctories*, *rectifying* the *stomach*, and *mortifying* the *malignity*.—That all *Pleuritics* shall be cured by *Phlebotomy*, is a thing

no wise man will undertake for: As little will any man promise to cure a *Pleurisie* by sole *Phlebotomy*, without giving the Patient any *Expectorating*, or *Sudorifick Medicaments*; or other *Potions*; besides the *Powders* of *Pikes-jaws*, *Boares-teeth*, *Crabs-eyes*, &c. which correct the *acidity* of the *Latex*; if there be any such thing.

But

But to shew the folly and impertinence of this——

G. T. There are several sorts of *Pleurisies*, in many whereof no *Galenical* Practitioner is obliged to *Phlebotomy* at all; though in some such cases it be left to their discretion either to use it, or omit it; as in *Bastard Pleurisies*. Of those which have the Character of true *Pleurisies*, some are occasioned by the *Wormes*: in which——G. T. cannot imagine that any man would rely on *Phlebotomy*. There are also *Pestilential Pleurisies*, wherein the effects of *Phlebotomy* are as uncertain as in the *Pest* it self: *Gesner* (in his *Epistles* somewhere) speaks of such a one, in which all died that were blooded: So doth *Bartoletus*, and *Wierus*. There was also an *Epidemical* Disease in *Friuli*, which *Vincentius Baronius* first named a *Pleuripneumony*, in which the *Pleura* and *Lungs* were both affected (where the seat of a *Pleurisie* is, is doubtful amongst Physicians) but yet so, that though they had all the signs of a common *Pleurisie* at the beginning, yet did they never come to *suppuration*, but were cured by *Phlebotomy*, immediately upon the administration whereof they were relieved, and with the help of accessional Medicaments expectorated *bilious* and *pituitous* spittle, and so recovered. As to those which are confessed to be *Pleurisies*, it is to be observed, that neither can all persons, nor all places bear *Phlebotomy* therein, and in such cases no wise Physician will administer it: the qualities of the *Climate*, and individual constitutions or debilities, are circumstances he will always regard. It is granted that some *Pleurisies* are so mild, and attended with such favourable symptoms, of so good a prognostick, that they do not need *Phlebotomy*: “ In *moderata pleuritide, in qua videlicet parum argent respirationis, tussis, dolor, febris, Phlebotomia inutilis est, aut certe non necessaria. Aliis enim levioribus auxiliis curari potest, quomodo is a Galeno percuratus, qui* in

Quercetan. Redivivus t. 3. p. 102. Bapt. Cos. Bronch. de morb. vulg. c. xii. and Bartoletus de diffic. respir. l. 5. c. 4. Bartoletus de diffic. respir. l. 5. c. 4. Wierus obser. l. i. de Epid. pleuritide.

Vincent. Baronius de pleuripneumonia. l. i. c. i.

Castellus de abusu Phlebotom. p. 87.

Gabelchoverum centur. cur. 92 in Scholio Hollerius apud Iacottum in Coac. l. 7. sect. 2. sect. 18. vide etiam Iacor in Coac. l. 5. sect. 2. §. 26.

Galenus com-
ment. 3 in l. 6.
Epidem.
But Riolanus
doth blame
Galen as vio-
lating his own
Rules hereby.
De circulat.
sang. c. xx.
Hippocrat. l. 2.
Apher. 19.

Holler. de
morb. intern.
l. i. c. 26. De
pleuritide.

Zacchias Qu.
Medico-legal.
l. 9. consil. 40.
sect. 4.

Alexius Fede-
mont. de secr.
l. i. p. 51, 49.
River. cent. 4.
obl. 88.
Quercetan.
Redivivum
t. 3. p. 103.

c in levi pleuritide sanguinem expuebat ; & plurimi visi sunt a nobis & aliis medicis citra ejusmodi auxilium convaluisse. But although I am ready to grant that in such cases Phlebotomy may be omitted, and yet the Patient escape : yet I can hardly commend the prudence of such Physicians as do omit it : For, since a Pleurisie is alwayes an acute Disease, (in such our Prognosticks are not certain) and the parts affect-
ed such as are of greatest importance, and equal tender-
ness; since the disease is frequently so fallacious, that amidst the most hopeful signes, and when we may justly expect its happy termination, even then most direful symptomes break out, and render the case de-
plorabile. [Nam aliquando ubi antea signa omnia sa-
lutem prænuntiauerint, crisis tempore, quæ fere fit ad
septimum, aut alium diem criticum, vehementer Pleuritis
exacerbatur, symptomata omnia crescunt, tum nihil
movendum est : sed omnia nature committenda sunt.]
Since the Patients condition is such, I do not see how any Physician can answer it well to his Conscience, or the Rules of Art (I am sure 'tis criminal in Italy) if he forbear to take some Blood (albeit not so much as otherwise he would) away from him : the damage is inconsiderable, but the hazard otherwise so great, that no prudence can well condemn it.

I do further confess that many have been recovered out of very dangerous Pleurisies without Phlebotomy : as he in Alexius Pedemontius with the pectoral drink, and perhaps that other by the eating of an Apple roast-
ed with Olibanum in it : whereof Quercetan makes mention ; who also speaks of another Powder given in the water of Corn-poppies, with which he cured many Pleuritics, administering nothing else inwardly, or out-
wardly. There is a Case in Valleriola (which yet he rather accounts miraculous, than to be presumed upon again) of a young Woman eight months gone with
child.

child, that fell into a *Pleurisie on the left side*, with a violent *Feaver*, a troublesome *Cough*, and difficulty of breathing. “ *Uno die miraculo curata, non misso sanguine, non cucurbitulis adhibitis, ullave purgatione, duobus tantum illi præscriptis Clysteribus emollientibus, sputo eodem die cruento plurimo & cum facilitate emanante: sudore interim copioso sub noctem secuto, postride sana evasit, absque dolore, absque febre (quæ tamen vehementissima in ea erat) & absque ullis symptomatis relictis, a morbo integre curata remansit.*

Fr. Valleriola
obs. Medic.
l. 4, obs. 1.

Neither will I deny that grievous *Pleurisies* have been cured by *Sudorifics*; this *Method* was practised by *Lazarus Meyssonnierius*, and that for this reason: He says the common People about *Lyons* in *France* call a *Pleurisie Lou-sax-prei*, or *congealed Blood*: and that *Platerus* (and others) upon *dissection* have found no other default in the *Pleura*, than that there hath been a *livid spot* thereon, which he looks upon as a *concretion of salino-serous Blood*; considering this, and that the *Critical termination* of *Pleurisies* is by *Sweat*, he perfected his Cures by discussing the *coagulated blood* by *Sweat*, and that sometimes so as not to use the other subsidiary Remedies of *Phlebotomy*, or *Lenitives*.

Lazarus Meyssonnierius
doctr. nov.
febr. Exerc. 3.
p. 41, 42.
ἀποδανόντων
αὐτῶν, ἢ
πλεὺρὴ πλὴν
ἐνείσκαται, ἢ
λοππὶ πλῆν.
Hippocrat. de
victu in acut.
l. 1. sect. 8.

“ *Uno non adhibitis Medicorum ignorantia, vel abstinentium negligentia convenientibus remediis aliis, in vera Pleuritide sudorem excitavimus diebus decretoriis 7. & 14. quod nobis feliciter cessit, præsertim in adolescentente prædixite, qui tempestiva phlebotomia omissa ad mortem properabat, ille siquidem septima morbi propinato a nobis vocatis potu hedrotico intra biduum sanus in publicum prodiit: vocatur ille Serre, & Burgundii apud Delphinates taurice vivit.* I must take notice here that our *Author* dislikes not, but complains of the omission of mature *Phlebotomy*; notwithstanding that he completed his Cures by *Sweating*: Neither is

Valles. in Hip-
pocrati. de vi-
ct. in morb.
acut. l. 4. p. 197

this way of his condemned by *Vallesius*; whose words are these. “ *Hæc* [apud Hippocratem ibi] ratio curandi pleuriticos, potionibus vehementer discutientibus, non admodum in usu est nostris Medicis, quippe qui post missionem sanguinis, & inunctiones & moventia sputa, & quæ ad has intentiones pertinent, nisi excreent ægroti, desperant servari posse, ad nullam aliam transientes curationem. Scio tamen quendam, cui homo quidam vulgaris nescio quid hujusmodi in potu dedit, copiosissimo sudore excitato, servatum esse brevi, & thoracem laxatum, & sputum redditum facile, cum septima jam dies esset, & nihil cepisset excreare, & pene jam strangulari præ respirandi difficultate periclitaretur. Idiotæ etiam qui Emperice curationem quorundam aggrediuntur, exudatoriis curant pleuritides, sæpe cum optimo successu: atqui profecto ratione hoc non caret. Of the like Cures, without Phlebotomy, or other Medicaments besides what expectorate, (and perhaps a pectoral liniment, or fomentation) you may see in the excellent *Rulandus* cent. 1. cur. 59, 75. cent. 6. cur. 76. And *Gabelchoverus* cent. 3. cur. 49.

Neither is it to be denied, but that *Rulandus* frequently cured *Pleurisies* (even the most desperate) by vomits of *Aqua Benedicta*, or the *Emetic infusion*, and pectoral drinks, without ever proceeding to Pectoral liniments, or Phlebotomy, except there did appear further occasion thereof after the vomit. So Cent. 1. cur. 41, 81. Cent. 4. cur. 26. Cent. 6. cur. 13. Cent. 7. cur. 42. But when there seemed occasion for Phlebotomy, after the aforesaid vomit, then he useth it. Cent. 1. cur. 35, 36, 57, 62, 65, 68. Cent. 4. cur. 16. Cent. 5. cur. 53, 56, 57. The like course was practised by *Hartman*, who begins with the same vomit; and if occasion require descends to Phlebotomy, and Diaphoretics, Liniments, and expectorating Medicaments. In Plethorick bodies, doth

Hartman.
praxis chym.
de pleurit.
p. 1 33. edit.
Genevens.

doth *Hartman* bleed before he vomit his Patients. Sometimes *Rulandus* doth vomit them with his *Aqua benedicta*, bleed, and sweat them for several dayes till they be well; using other pectoral Medicaments: as *Cent. 6. cur. 18.* Sometimes he sweats and vomits them at once with the powder of *Asarabacca*-roots, and a Decoction or Water of *Cardus benedictus*, and doth not Phlebotomise: as *Cent. 5. cur. 6.* Concerning the use of his *Aqua benedicta*, or the Emetick infusion in Pleurises he avows it to be Experimentum optimum contra hunc morbum, et omnium aliorum Medicamentorum certissimum. *Cent. 1. cur. 66.* I must profess I have generally guided my practise in the Countrey by the Presidents of *Rulandus*, proceeding to Phlebotomy after vomiting, if the pain were not mitigated and expectoration facile; but if it were, I acquiesced in topicks, and expectoration, and sweating. Where the Patient could, or would not vomit, I followed the Presidents of the said *Rulandus*, for to purge with the decoction of *Senna*, *Agaric* and some pectoral additions; and then to expectorate, and sweat the sick, not bleeding except occasion required it, and then I either premised, or used it subsequently, as I saw cause: thus *Rulandus Cent. 5. cur. 36, 64.* for which procedure you may see his Reasons added *Cent. 7. cur. 20.* And the practise of *Gabelchoverus Cent. 1. cur. 11 Cent. 2. cur. 23.* But *Gabelchoverus* in his Scholium here doth not allow of so strong purges as *Rulandus* sometimes makes use of, and defends by the Authority of *Hippocrates*, who did use *Peplum* and *Hellebore* in such Pleurises, as the pain descended to the Hypochondria, and did not ascend to the Omoplate: But *Rulandus* doth not regard that distinction, nor *Gabelchover*, nor many others. The case of the Wife of *Ludovicus Paniza* doth deserve to be set down here.

Ludovicus

Ludovicus Paniza, Mantuanus, in Apologia Commentarii de parca evacuatione in gravium morborum principiis a materia multa & mala & non furiosa pedetentim facienda. cap. 6. fol. 59. col. i.

“ Præterea quid sensui respondebimus ? quod anno 1554. mea conjuge pleuritide correpta, ea suum annum 72. agente, imbecillis naturæ, melancholica temperaturæ, sanguine & carne exuta, dolore ad spatulam ascendente. Eam secundo morbi die, non cum Phlebotomia, sed cum Pharmaco purgavimus, quod summa cum tranquillitate subduxit, deinde subtili cum dieta, & coquantibus, & spiritum facilitantibus (ut par est in hujusmodi morbis) usque ad septimam sic procedentes, qua transacta, de Phlebotomia memores, sanguinis & carnis privatione, ætate, & ægra reluctante, eam dimissimus, atque ad id felicissimum purgatorium Medicamentum rursus devenimus, a quo post xiv. diem salvata fuit,

It is further to be taken notice of, that sometimes Pleurifies have been cured without Phlebotomy, purging, or vomiting, or bleeding; by Liniments and expectorating Medicaments: as in Gabelchoverus Cent. 1. cur. 3. Cent. 2. cur. 93, 98, 99.

But to oppose—G. T. directly: sometimes Pleurifies have been cured by Phlebotomy alone and pectoral Medicaments: as in Rulandus Cent. 7. cur. 13, 14. Cent. 10. cur. 49. Gabelchoverus Cent. 3. cur. 7. Sometimes by Phlebotomy, and sweating: as in Rulandus Cent. 6. cur. 60.

I have hitherto made use of *these Authors*, because they were most *eminent Practitioners*, and particularly famed for their *Cures* in that disease: and it is manifest hereby, that *Physicians* are not bound up to one method therein. Neither indeed can they be in any disease: for in some years, and in some ages, and persons, and in some circumstances, they are forced to recede from their usual courses; and sometimes the mildness of a distemper is such, that it requires not all their address, those *Methods* which are set down in our *praxes*.

I now come to give an account of the most common and received Method of curing *Pleurisies* amongst *Physicians*; and to shew with how much reason they practise *Plebotomy* therein. There is not any disease whereof *Hippocrates* did take so particular care in relating its *Diagnostics*, *Prognostics*, and *Cure*, as a *Pleurisie*, as is evident by what he hath written in his Books *De victu in morbis acutis*; and *De morbis*, besides what he hath set down occasionally in his other Works: It is an *Acute Fever*, finishing its course in seven, nine, eleven, or fourteen days; though it hath happened (as in the case of *Anaxion*) that it extends its period to thirty four days. It is attended alwayes with troublesome, oftentimes with dangerous symptoms. A violent Cough, difficulty of breathing, pricking pains and Stitches in the sides: these are the *Pathognomonical* signs of this Fever. Though the part affected seem principally to be the *Pleura* or costall membrane, yet are the *Lungs* attacked by this disease (and frequently it hath been found that the seat of the *Pleurisie* is rather in them than in the *Pleura*; as the followers of *Petronius* do demonstrate) and their *fabrick* is so tender, that it is in great danger to be putrified or corroded in this distemper, by the sharpness or other evil qualities of the *sputaminous matter*.

Hippocrat.
aphor. 8. § 4.
cum notis
Vallesii.
Hippocrat.
Epidem. § 3.
l. 3. p. 309.
310, 311, 312.
cum notis
Vallesii.

Hippocr. Coac.
Prænot. l. 5.
sect. 2. sect. 27.
cum notis
Iacottii.
Ballonius
Epidem. l. 1.
p. 20.
Franc. Rubens
nocturn. ex.
excitat. xii.
Lud. Mercatus
consult. xi.
Hippocr. Coac.
Prænot. lib. 5.
sect. 2. sect. 7.
cum notis
Iacottii.

Σπερμύτων
διττων, ἢ
πλευρὶ πλιν
ἐνρίκστα.
Hippocr. de
victu acut. l. 1.
sect. 35.
Librand. a Die-
merbrook de
pest. c. 14.
sect. 7.

Hippoc. aphor.
33. sect. 6.

matter. Besides, it is a very *fallacious* disease, and frequently after hopes of a recovery by a *benign Anacatharsis*, after that the *stitches* have abated, oftentimes the disease becomes *crude* and *exasperated* again, to the *detriment* or *death* of the Patient: as appears by the case of *Anaxion* in *Hippocrates*, and that other related by *Franciscus Rubens*: as also by *Mercatus*. If it be not happily cured, the danger is no less than that it should change into a *Phrenitis*, or *Peripneumony*, or terminate in an *Apostemation* of the *Lungs*, or an *Empyema* in the *Thorax*. Where the disease is so full of *dangerous* as well as *vexatious* symptoms, it is not to be wondered that *Physicians* have diligently looked into the disease, and recommended unto our *practise* a great many things, which they who either *perfunctorily* look upon matters, or *superciliously* despise dangers, or out of *ignorance* cannot apprehend them, may contemn. That the *Blood* in that disease should acquire a *congealing* or *coagulating* quality seems *unimaginable*: both because that oftentimes the *procatactic* cause is *sudden* in its operation: as when a *plethoric* person any way doth *over-heat* himself, or *drink cold drink*, &c. and also that the *congelation* in the *Pleura* (when it is *there*) is no other than what is seen in the *spots* of the *spotted Feaver*, or *Plague*; which seem not to be *congelations* of the *Blood*: Besides, How comes it to pass that this *aptitude to congeal*, if it be in the *whole mass* of *blood*, doth not discover it self any where else but in the *Pleura*? And if such a *Diatheſis ad aceſcendum* in the blood produce a *Pleurisie*, How is it true that *Hippocrates* saith, *Acidum qui eructant, non sunt pleuritidi obnoxii*? Why also are *splenetic* persons (in whom we may best suppose such a *Diatheſis*) not inclined to *Pleurisies*; except the *spurious* and *flatulent* ones? Is it not moreover known, that *Vinegar* dissolves *congealed Blood*, and is therefore given in *bruises*: As also

so *Oxymel* and *Syrup of Vinegar* in *Pleurisies*? But 'tis evident that it is a *Feaver* accompanied with a *Catarrh* upon the *Thorax* and *Lungs*; and that it admits of a great *diversification* according as the *Galenical* humours do operate in it; and in the *Cure* a *different* regard is to be had to a *bilious* or *pituitous* *Pleurisie*, from what there is in one that is *sanguine*: as any man knows that understands *Physick*, or hath so much as read *Salus Diversus* upon *Hippocrates de Morbis lib. 2.* Or *Forrestus's Observations*, lib. 16. It was the advice of *Hippocrates* at first to try to *discuss* it by *fomentations*: if they succeeded not, then in case the *stitches* seemed to diffuse themselves *upwards* towards the *shoulders*, to phlebotomise the Patient, and let him to bleed largely until the colour changed, from *corrupt* to *red*, or from *pure and red* to *blackish*: But in case the pains descended below the *Diaphragme*, then to purge with *black Hellebore*, or *Peplium*. The reason upon which he seemed principally to go was, that a *Physician* was to imitate the progress of *Nature*, and to carry off the peccant humours by such wayes as he inclined them to go: which in one case appeared to have a tendency to the *Arm*, in the other to the *Bowels*. But *Galen* considering the uncertainty that is in the operation of *purging Medicaments*; as also the hazard of *irritating inflammations* thereby, and the diverting that *sputation* which is so requisite in that *disease*: and that since a *Looseness* was perillous therein, *purging* could not be *safe*: and I suppose that the sad case of *Scomphus* may have discouraged him from it: who being purged in a *Pleurisie*, became *frantick*, and died on the *seventh day*: the discourses upon which lamentable *History*, in *Vallesius* and *Van der Linden* do deserve to be pondered: The *purge* did not *work much*, yet killed him. Some other cases as sad as this are recorded: upon the account whereof the generality of *Physicians* have prudently been swayed from *purging* in

Hippocrat. de
victu in
morb. alucet.
l. 2. cum notis
Vallesii. p. 42.

ὁ δὲ πλεψίν.
δὲ ἡ τρε-
πνευμονίης
ἐξουσία, δια-
βόη ἐμπε-
μένη, καὶ
Hippoc. aphor.
16. 16.

Valles. in Hip-
pocrat. Epid.
l. 6. p. 456. &
Van der Linden
select. Medic.
c. xii.

Hippocr. Coac.
praenot. 15.
sect. 2. sect. 25.

a Pleurisie until the latter end: Because it is very convenient in a Pleurisie that the body be moderately soluble: they do give their Patients Glysters: and because the disease is a Catarrh accompanied with a Fever, they conceive their main work to be this, to prevent the increase of the fluxion, by diverting the course of the Blood another way: and to evacuate by a concoction and expectoration the matter inflamed and impacted. To do this, they place the beginning and foundation of the Cure in Phlebotomy; yet do not we now insist upon their bleeding to a Lipothymy, or till the colour of the blood change, but rather chuse to proportion our Phlebotomies by other considerations; especially since it is visible in the case of great fluxes of Blood, that revulsion is best performed by partite, and, after some intermission, repeated phlebotomies: and in order to the Anacatharsis or expurgation by spittle, we do give them all besitting means to expectorate concocted matter: and use anodyne unguents and fomentations in order thereunto. There was heretofore a great quarrel about bleeding in a Pleurisie, which arm it should be

Vesalius saith, that all the quarrels about the different Phlebotomies in a Pleurisie, were Riga de luna caprina. Vesal. exam. obs. Fallopi. p. 129. yet this is evident, that Nature delights to evacuate diseases of the liver by an Hemorrhagy of the right nostril; of the spleen, by the right. And that there is as it were a seam in the body, is apparent in the Pulse. So that 'tis wisdom for us to imagine, that 'tis not indifferent what side we bleed on.

administred in, and in what vein: But those are not the contests of this Age, wherein it is agreed to bleed on the same side that is affected, and to repeat the phlebotomy on the contrary foot or arm. Neither ought there to be any dispute about repeating phlebotomy, since the first occasion thereof continuing, or upon a recrudescence urging us again thereunto, if the Patients strength can bear it, we ought to repeat it. In this case the Methodists and Galen are reconciled; and I suppose it most evident upon those Principles I have laid down. For if the Habit of the Body in a Pleurisie be become too adstrict, then is it necessary to relax it and if the disease be great, by as great remedies; now their

their grand relaxatory is Phlebotomy : and after a vomit, they used it : yet had they this care, not to bleed too much, least the body being too much relaxed, should not be able to concoct the impacted matter : and the Galenists do give the like caution, that we have a care of hindering the suppuration by importune Phlebotomies. I find Hippocrates to have bled Anaxion upon the eighth day : Forreſtus gives us Instances of the like nature. That frequent Phlebotomies in the same Pleuriſies have been practiſed very beneficially, is evident upon record : and in Holland I find Tulpius to accord with the French and Spaniards, and to allow, if the diſeaſe be violent, that the Pleuritic bleed three, nay five or eight times : and gives ſuch Preſidents for it at Amſterdam, as may juſtifie us at London. I will recite one caſe of his.

Valles. Meth.
med. l. 4. c. 2.
Riolanus de
circular.
ſangu. c. xx.
Forreſt. Obſ.
l. xvi. Obſ. 33.
in Scholio.

Tulpius Obſ.
l. 2. c. 1, 2, 3.

Tulpius Obſ. l. 2. c. 2.

“ Uxori Cuſparis Walendalii, inſurrexit, octavo a
“ partu die, acerbiffimus lateris dolor : repetens identi-
“ dem, tot inſultibus, ut neceſſe fuerit, ter pedis, &
“ quinquies brachii exolvere venas : antequam compri-
“ mereſur, ſanguis, a ſuppreſſis menſtruis ſuſum raptus.
“ Sed ea fuit ipſi virium conſtantia : ut præter ſangui-
“ nem toties detractum, ſuſtinerit inſuper ingens alvi
“ profluviū, antequam integre, evicerit hunc mor-
“ bum.

There is a great variety in the practice of Phyſicians as to Phlebotomy, ſome uſing it more frequently than others do : whether theſe be raſh, or the others in- diſcreetly timorous, I will not determine now : Both may do well as to the recovery of the Patients ; becauſe a judicious perſon ſupplies one Medicine by the uſe of another : But theſe Baconical Ignoramus's cannot do that. I find that Forreſtus ſeldome, if ever bled his

Almaricus
Blondellus de
venæ sectio-
ne, p. 50.

Pleuritis above once : and Blondellus assures me, that the Peasants of France bleed but once in a Pleurisie at the beginning, and recover. “ *Plebei fere omnes una vice contenti adire Medicum, una sola adhibita venæ sectione curantur, & ex decem unus vel duo moriuntur, & aliquando omnes sanantur*. Without all controversie Phlebotomy is one of the most generous remedies in the World, if a man understand the Art of using it : But 'tis our old Books, and not the *Novum Organum* of my Lord Bacon, or the insipid Writings of the modern Experimentators will qualifie a man thereunto. I do believe that Botallus did the wonders he speaks of, but as there were left-handed Catoes heretofore, so there is many a left-handed Botallus, that would imitate his practise, yet wants his judgment and learning. I would advise such to be tender how they deal much in this noble remedy, or rather that they would totally desist from practising Physick.

Platerus prax.
c. 2. c. X.

I. Riolan. de
circulat. sang.
c. 20.

Botallus de
venæ sect. c. 3.

I know that in Germany most are scrupulous about reiterated Phlebotomies, yet Platerus commends it in Pleurisies, and adviseth to bleed frequently, even twice in a day in the beginning of the Disease. 'Tis not that the people there cannot bear it so well as in France, or Spain, but that they will not : There was a time when Galen thought that such as the French, could not bear will the loss of blood : and Valleriola did imagine that the Moors and Spaniards could not endure it so well as the Dutch, or French : there was a time when to let a Woman with child bleed in England, was esteemed impracticable : and the Lady Drury was a bold Lady, that in the dayes of Queen Elizabeth, durst obey Botallus therein, against the opinion of the greatest English Doctors : But a greater maturity of judgment, and the good success hath undeceived us, and convinced us, that our fears were but panick and vain : and in opposition to Galen and Hippocrates we accord with Celsus.

“ *Siquidem*

Si quidem antiqui, primam ultimamque ætatem sustinere non posse hoc auxilii genus judicabant; persuaserantque sibi, mulierem gravidam quæ ita curata esset, abortum esse facturam, Postea vero usus ostendit, nihil ex his esse perpetuum, aliasque potius observationes adhibendas esse, ad quas curantis consilium dirigi debeat. Interest enim, non quæ ætas sit, neque quid in corpore intus geratur, sed quæ vires sint. Ergo si juvenis imbecillus est; aut si mulier, quæ gravis non est, parum valet, male sanguis mittitur, emoritur enim vis, si quæ supererat, hoc modo erepta. At firmus puer, & robustus senex, & gravis mulier valens, tuto sic curantur.

C. Celsus Med.
lib. 1, c. 10.

I have seen some of all Ages phlebotomised, and have preserved the lives of some small Children by that means; even Pleurifies. But the effects of Phlebotomy in a pleuritic woman, which was within a fortnight of her time, are remarkably described by that cautious Practitioner, Baldassar Timæus: He did not scruple to let a gravid woman blood, but she was so far gone, as that he trembled: “ Tandem non tantum adstantibus mulierculis, sed & ipsa ægra venæsectionem vehementer urgente, exemplo Petri Salii Diversi, qui ultimo mense, & instante partus tempore feliciter venum aperuit, jeci aleam, & secta mediana sanguinem ad uncias circiter sex detraxi, & sic optato successu & matrem & fætum a præsentissimo vitæ periculo, Dei gratia, liberavi. There are a multitude of things to be considered by him that would judiciously practise Phlebotomy in Pleurifies; besides what I have intimated: as Whether it succeed another disease, as the Measles, or be primary: Whether it be complicated with other distempers, or solitary: Whether it be crude, or upon concoction: Whether it be likely to be long, or short: Whether the Patient do expectorate,

I have seen Ladies with child to be let blood, when they were continually swooning, and fainting, and extream weak: and that judiciously: for they having large veins, and otherwise a firm and impenetrable habit of body, we did not regard the Animal Imbecillity, nor the irregularity of a pulse altered by vapours, but proceeded to cure them by Phlebotomy: and it prospered.

Baldass. Timæus respons.
Medic. 58.
Petri Salii Diversi de affect. particular. c. xxii,

or

or not, If he do; what colour, and what consistence, or taste the evacuated matter hath: Whether the disease be upon a recrudescence, or not: These are circumstances which he ought well to understand, for as to the time of phlebotomy, 'tis one in a long disease, when the beginning is protracted to seven, ten or seventeen dayes; and another in that which will terminate in seven dayes: the urgency is one in an incott Pleurisie, when nothing is (in due time) expectorated; and another, when blood, or purulent but benign matter is avoided: and another when the matter is black, livid, very yellow, or stinking, or sweet to the taste: the case alters when Nature doth ease her self by a propitious looseness, and when it is an importune Diarrhœa: when it turns to an Empyema, and when it proceeds to an amicable Crisis. These things are to be pondered by the Physician, and his repute is not to be questioned, for his actings, by such as understand not the case, or apprehend not by what exigences and presidents the intelligent Practitioner is guided. Men ought not to judge of Diseases by their names only; and condemn a knowing man for doing that in one disease at one time; which neither they nor he would adventure in another: and since it is not allowed us to abandon our Patients in some cases, according to the advice of Hippocrates: give us leave to make use of that Apology which Celsus doth suggest unto us: "*Fieri tamen potest, ut morbus quidem id desiderat, corpus tamen vix pati posse videatur: Sed, si nullum tamen appareat aliud auxilium, periturusque sit, qui laborat, nisi temeraria quoque via fuerit adiutus, in hoc statu boni Medici est ostendere, quam nulla spes sine sanguinis detractioe sit; faterique quantus in hac ipsa remetus sit, & tum demum, si exigatur, sanguinem mittere. De quo dubitare in ejusmodi re non oportet. Satinsest enim anceps auxilium experiri, quam nullum.*" Let the World rest assured, that an understanding Galenist

C. Celsus Me-
dic. l. 2, c. 10.

lenist doth nothing rashly: that he considers of all circumstances, and knows their case better than themselves; that he hath as great a regard to the preservation of their *vital strength*, as they can wish: and apprehends when to *desist*, and when to *operate*, and in *what manner*: but these are *mysteries* to the *Baconists*: and I can give no better directions to the *sick*, than that *they would apply themselves to a prudent Physician*, rather than *Quacksalvers*, and refer themselves to his judgment, without imposing their own, or that of ignorant *Experimentators*, and *Arcanists*. And so much concerning *Phlebotomy* in *Pleurisies*: the more exact handling whereof, and the accommodating of the Method of *Rulandus* to that of the *Galenists*, must be the subject of another discourse: I add only, that Nature it self doth teach us the use of *Phlebotomy* in *Pleurisies*; for they are often accompanied with a bleeding at the nose, in the beginning, which is beneficial to the Patient. *Larvi sanguinis fluxus ex naribus multa solvunt, ut Heragoræ. Non agnoscebant Medici.* Though it happen *symptomatically*, yet is it frequently *advantageous*, even in *Pleurisies*: nay 'tis an accident we may commonly expect in them: *Quibus febricitantibus rubores in facie, & capitis vehemens dolor, venarumque pulsus, ita ut plurimum fluor sit sanguinis*: and in a *Pleurisie*, 'tis alwayes the most mild and safe, if the Patient begin his *Anacatharsis* by a *sub-cruent sputa- tion*. In fine, she usually *terminates* this Feaver by an *Hæmorrhagy* at the Nose, which if it be *small* doth portend *evil*; but if it be *large*, is *beneficial*. *Pleuritis larga hæmorrhagia enaribus judicare potest, stillatione non potest.* And this good fortune did recover *Demosthenes* out of an incurable *Pleurisie*, as he relates it himself. *Febris me continua sequebatur, & cruciatus totius corporis perquam vehementes & atroces: imprimis vero laterum & imi ventris: neque cibum capere poteram; & ut Medicus quidam affirmabat, nisi mihi*

Hippocr. Epid.
l. 2. sect. 3.
p. 102. cum
notis Vollesii.
Prosp. Alpinus
de prælag. vi-
ta & morte.
l. 7. c. 2.
Coac. prænot.
l. 4. v. 30.
Prosp. Alpinus
de prælag. l. 7.
c. 16.
P. Salus com.
in lib. 1. de
morbu, p. 170.
Holler. apud
Jacot. in Coac.
l. 5. sect. 24.
sect. 59.
Demosth. adv.
Cænon. citante
Beverovicio
de Med. vet.
part. 3. c. 7.
p. 312.

Hippocr. Epid.
1.6. sect. 3.
p. 665. cum
notis Vallesii.

mihi doloribus afflicto, & jam desperata purgatio sanguinis ultro copiosa supervenisset, me saniosum (ἐμάνωον) factum fuisse perituum: nunc is sanguis recessu mihi suo salutis fuit. I have not the original by me, to consult the Text: but whether it were at the Nose, or by stool (I believe the former) it is all one to the present purpose; but it may seem pertinent to observe, that those which bleed much at the *Emeroids* are not incident to *Pleurisies*.

pag. 80.

The subject of my next discourse must be concerning *Phlebotomy* in the *Small Pox*: My Adversary blameth Doctor *Willis* for allowing of *Phlebotomy* in the *Small Pox*, upon the nick of their eruption: but by way or Argument against the judgment of that eminent Practitioner, he alledgeth nothing but this: "Make this good by fact, that 'tis profitable and necessary in any such case to open a vein (for *dr. & ven. will* never carry with me) then I shall forthwith become a proselyte to your Method. Assuredly this, I am certain of it, was neither profitable nor necessary for the Nation, that we should by this means loose three persons of the noblest extract. — I have always looked on the discourse of that Learned man concerning Fevers, as one of the most judicious Writings that ever our Faculty produced: 'tis succinct without obscurity, and without the omission of any circumstances that frequently or rarely fall under the consideration of a Physician, and the practise, as well as Medicaments so late, so authenticate according to the Rules of Art and practical Observations (which we preserve) that 'tis above all the effects of Envy and Malice.

It is a great abuse to the Doctor which this *Bacon*-faced *Helmontian* put upon him, as if he approved generally and indefinitely of bleeding in the *Small Pox* upon the nick of their eruption. It appears there not to be his practise, but upon urgent cases; and he,

he, on purpose relates an *History of its evil effects*, thereby to deter others from using *Phlebotomy* rashly in that disease. I shall repeat his words, and method of curing it, as far as relates to the *beginning of the disease*.

“ *Quoad primum intentio sit, ut naturæ impedimenta quævis auferamus, quo sanguis, variolarum fermento inquinatus, & coagulari aptus, adhuc motum æquabilem in corde & vasis stagnatione retineat, ac effervescentes portiones cum veneno gelatus foras expellat: interim cautio sit, ne fermentationis, seu effervescentiæ opus ullatenus cobibeatur, aut nimium proritetur: hoc enim cruoris massa plus debito in portiones congelatus agitur, isto restringitur nimis in motu, nec particula venenata cum cruore gelato foras emendantur: natura a secretionis & expulsionis opere impedire solet nimia excrementorum congerie in visceribus, aut sanguinis exundantia in vasis; quare primo statim morbi insultu deinde erit opera, ut evacuatio per vomitum, aut sedem, si opus fuerit, tempestive procuretur, pharmacis tantum mitioribus & blandis utendum est, quæ nimirum non irritent, aut humores perturbent: quare hoc tempore interdum emetica, purgantia, aut enemata, modo hæc, modo ista locum habent: etiam sanguinis missio, si plethora adsit, bono cum successu celebratur. — Circa missionem sanguinis instante variolarum eruptione valde ambigitur: olim inter nostrates hæc res sacra audiebat, neque sub ullo necessitatis pretextu Phlebotomia admitti solebat: nuper autem experientia duce in quibusdam casibus sanguinem mitti omnino utile & necessarium esse comprobatur: quæ tamen evacuatio si in quavis constitutione indiscriminatur adhibeatur, aut quando isthac opus fuerit, in quantitate nimis larga peragatur, magna sæpe incommoda exinde sequuntur.*

Will. de febr. c. 15.

These are the words of that intelligent person; whereas — G. T. seems in the *English Text* to affix upon him such a *sentiment* as if he allowed commonly

and indiscriminately of Phlebotomy in the very nick of the coming out of the Small Pox: But it may be replied, that he hath done the Doctor justice in the Latine citation: but I think not amongst English Readers, nor in his vulgar discourses. However I shall endeavour to justify the aforesaid Method of Doctor Willis as Artificial, and agreeable to the opinion and happy practise of the best Physicians: and that it may be more manifest, I will enlarge my work, by examining the contrary opinions of some others: for — G. T. gives my Pen here no employment, except it be to tell him, that the three noble Personages which he speaks of were not the Doctors Patients, as I believe: except he be accountable for all that act agreeably to that Method which He (and our best Physicians) layes down: I add, that many Actions are warrantable by Art and Prudence, which are not successful: and to requite his Catalogue, I would have him know, that when this young King of Spain had the Small Pox, he was let blood several times: and so was the present Queen of France upon a feverish indisposition let blood twice, in 1663. and two dayes after the Measles appeared: And this Lewis xiv. being sick of the malignant and pestilential Small Pox was thrice blooded by Doctor Vautier: and for it, received this Elogy from the learned Jacobus Thevart. — — Ut boni omnes Galli palam profite-

Jacob. Thevart
in dedicatio-
ne tomi tertii
Consil. Me-
dicin.
Ballonii, ad
D. D. Francisc.
Vautier Archi-
atrorum Co-
mitem.

antur ac prædicent suum se tibi debere Regem charissimum, quem nempe malignis ac pestilentibus variolis periculossime laborantem non cordiacis tantum prædiis (ut Medicastro-
rum quæ vulgus solet) sed & ipsa, quam in ejusmodi affectibus aversantur ac damnant, sanguinis missione ter, pro symptomatum urgentium necessitate, repetita, saluum & incolumen restituisse, innumeris interim in hac urbe populossima pueris hac Epidemica lue medio sublati. Quod ob facinus tam egregium quæ non tibi laudes, vir præstantissime, quæ non soteria debentur? Si qui civem Romanum in prælio servaverat, quercea

quercea corona dignus habitus est, Tu certe qui Regem Christianissimum ab hoste tam infenso liberasti, auream, qualis est ab Atheniensibus Hippocrati concessa, meruisti. Nec dubito quin si vixisses priscis illis temporibus, quibus inter Heroas referebantur quicumque insigni aliquo facinore Rempublicam conservassent adjuvissentve; quin, inquam, ipse Heroum auxisses numerum, honoresque prope divinos acceperis. I repeat this passage with the more satisfaction, because it may serve as example to the English, and instruct them with what gratitude and acknowledgments they ought to treat the learned and renowned Physician Sir Alexander Fraasier, principal Physician to his Majesty, for recovering our most gracious sovereign of the like distemper, by the judicious administration of Phlebotomy. I could name many other Persons of Honour, who do confess that they owe their recovery out of dangerous and malignant Small Pox unto Phlebotomy.

Of those that have written concerning the Small Pox, and are therein professed enemies to Bleeding, I shall take only two particularly to task; the one is Doctor Tobias Whitaker, the other Doctor Thomas Sydenham: which I do the more willingly, because the one writing in English, the other practising at London, and endeavouring to insinuate his principles every where, with a derogation from the authorized practice of Physicians, it must needs seem that all who do not take his course, have neither regard to the Patients, nor considered seriously the rise and progress of the disease. I did at first doubt, Whether I ought to reckon them as Distinct Authors, because they so far agree in the Regimen and Cure of the disease; that the one doth seem to have stolen it from the other: As will appear by this Parallel.

Doctor T. Whitaker of the Cure of the Small
Pox, p. 22.

“ In the *Regimen* of this Disease, the whole work
“ consists in *moderation of Air and Diet*, without
“ any other mixtures of violence, or bland impedi-
“ ments, which may altogether pervert, or in or by a
“ less force retard Nature in its motion, the motion of
“ Nature in this case being from the beginning of the
“ disease to the eruption of the pustules *Critical*, and
“ in *Critical* motions the least application of any Medi-
“ cament is so dangerous, that no expert Physician will
“ admit of it. — The Diet is to be *Alimentum me-*
“ *dicamentosum*, such as is *Milk* with *Saffron* and *Mari-*
“ *gold flowers*.

He observes
that this Fea-
verish, or
great ebulliti-
on is not con-
stant to the
Small Pox, but
that the sepa-
ration and ex-
pulsion is fre-
quently per-
formed with-
out any great
sensation thereof,
the Patient
never confin-
ing himself
to the cham-
ber.

“ Doctor *Sydenham* doth suppose that it is natural
“ for the Blood of all persons at least once in their lives
“ to undergo a great change, and as it were a new
“ form; and that there is no peculiar *venome* or *ma-*
“ *lignity* infecting the *Blood*, but all is the result of this
“ *inclination* in it to exchange its *state*; and in order
“ thereunto *some parts* are to be expelled; and in order
“ thereunto must first be separated: This is done by a
“ *Feverish Ebullition* in the mass of blood, where-
“ by *those parts* are separated from the residue, and dis-
“ charged into *fleshy parts* of the Body, which Nature
“ looks as requisite in order to the change she is going
“ to make: All this is usually done in *four dayes*, and
“ the *Blood* is recomposed and becomes as calm in its mo-
“ tion, as it was before. The expelled matter is to be
“ elevated into *pustulary abscesses*, and there *maturated*
“ and *dried up*. For the carrying on of all *this work*,
“ it is his judgment that the *Physician* ought to DO NO-
“ thing: But the Patient is to be kept in a *moderate*
“ *heat*, and *temperate diet*, taking nothing that is cold;
“ and

and not so much as being confined to his *bed* beyond his ordinary use, except necessity require it, and then he is to use no more *clothes*, nor *warmth* than he accustomed himself unto in *health*, not so much as being obliged to keep his armes in Bed. On the fourth day he gives them one *very gentle Cordial* to promote their *eruption*, and abandons them to *Saffron* and *Milk*, to be given twice a day, and ordains that he be kept in a *constant moderate warmth*, such as is *natural*, and usual to the Patient.

This is the sum of his *Method*, except I add, that when they are upon *maturation*, he gives a *mild Cordial* twice each day, *morning* and *evening*: And in case that during the time of the *decumbiture* of the Patient by any accident a *new Feaver* arise, then is the Patient to be kept still in such a *proportionate heat* as is usual to him in *health*, if the season be temperate, he is not to have a fire; to be dieted with *small Beer* and *Water-gruel*, *stewed Apples*, or the like, but to have no *Cordial*, not so much as *Hirts-horn posset-drink*.

By this *Method* Doctor *Sydenham* doth not doubt but *this disease* which so afrighteth people, and is so frequently *mortal*, will pass off with much *gentleness*, *ease* and *safety*.

Betwixt these two there is a little discrepancy in their *Method of curing the disease*: though there be some in their *expressions*, and Doctor *Sydenham* doth seem the *Comment*, the other the *Text*. Both of them oppose *Phlebotomy*, *Vomits*, *Purges* and *Glysters*, as well as *Sudorifics*. Though they differ in the reason for their rejecting *Phlebotomy*; For Doctor *Whitaker* doth avow, that *it draws from the Circumference to the Center*: But Doctor *Sydenham* yields, that *it produceth a quite contrary motion*, and causeth the *Small Pox* to come out.

Doctor

p. 65.

Doctor *Whitaker* doth avow, that this course of *his* is the old English Method, and the ancient, national and successful government of our Nation. But Doctor *Sydenham* would seem to erect *his practise* upon *his own Observations*; though all he propose (in a manner) be no more than the *common actions* of Countrey-people; (except when by any accident the Feaver be exasperated in the *beginning*; or *progress*, that he prohibits *Cordials*) and what I believe was derived from *Avenzoar*, and *Fracastorius*.

Forrest. obs.
l. 6. obs. 44.

p. 25.

Of these Writers it is remarkable, that Doctor *Whitaker* doth never allow that there can be any *malignity* in the *Small-Pox* so great and *urgent*, as to induce a *Physician* to intermeddle beyond a *moderate Diet*, and *temperate Air*: because the *Motion* being *Critical*, admits of *no violence*. But this is a great Error in the *fundamentals* of *Physick*. For, first in *Diseases* complicated with *malignity*, not only the *prognosticks*, but the *issues* are very *uncertain* as to *life*, or *death*, and the *Critical evacuations* deceitful, so as that oftentimes they bring a *momentary alleviation*; oftentimes, notwithstanding *those evacuations*, the distemper increases, and the Patients dye: This every man understands who is conversant in our accounts of *Malignant Feavers*; so that to grant at any time that there is a *malignity*, or *venenate indisposition* in the sick, and to abandon him to a *temperate Air* and *Diet*, relying upon *Saffron* and *Milk*, is a practise never to be justified in *Physick*. But alas! we are not to be afrighted with the bug-word, *Critical motion*, nor half an Aphorisme out of *Hippocrates*; viz. *Quæ judicuntur, sinere oportet*. These general sentences neither qualifie a *Doctor in Law*, nor a *Physician*: It becomes us to consider in a *Critical motion* several things:

Prosper. Alpin.
de prælag.
vit. & morte.
lib. 6. c. xi.

First, (Supposing it to happen in its *due time*) we must consider whether it be only a *Motion*, or whether

ther it be proportionate to the Disease : for no evacuation that is *diminute*, is properly *Critical* : If therefore the *pathognomonies* of the Disease be such as argue a multitude of the *Small Pox* to be requisite for the recovery of the sick, and only a few come out, the *Physician* is obliged to assist Nature.

Secondly, Supposing that they do come out plentifully, yet if they be not such as should come out, but *black, livid, green*, or interspersed with *purple spots* (not to mention other circumstances, which every Nurse can tell) 'tis certain that the evacuation (how critical soever) doth not oblige the *Physician* to stand an idle Spectator : No more ought he to be in case that all symptoms increase upon the critical motion, and his Feaver and dangers multiply thereupon. Τα περιεργα

Hippocr. Aph.
23 sect. 1. &
aph. 25. sect. 15.

Thirdly, It is requisite that the *Critical evacuation* be per loca conferentia, by such wayes as are necessary to the disease : But if the *Small Pox* during their eruption be attended with a *dysentery, bloody urine*, or other pernicious excretion; that scrap of Hippocrates will not excuse the *Physicians* negligence; for it supposeth that all the conditions requisite to a good evacuation be found in that which the *Physician* is not to intermeddle with. I need say no more to intelligent persons: 'tis not my present work to turn Institutionist.

Whether Doctor Sydenham intend to ascribe sense, appetite and judgment unto the Blood I cannot well tell; but either He saunteth in *Metaphors*, or explaineth himself, in his general Hypothesis about Feavers, as if his meaning were such: “ Quinimo nec, mea sententia, minis liquet febrilem sanguinis commotionem sepe (ne dicam saepius) non alio collineare, quin ut ipse sese in novum quendam statum, & diathesin immutet, hominemque etiam cui sanguis purus

P. 457

& intaminatus perflat, febre corripī posse: sicuti in
 corporibus sanis evenire, frequenti observatione com-
 pertum est, in quibus nullus apparatus morbosus, vel
 quoad plethoram, vel quoad cacochymiam fuerit, nulla
 insalubris aeris anomalia, quæ febre occasionem submi-
 nistraret. Nihilominus etiam hujusmodi homines, præ-
 cedente insigni aliqua aeris vel victus; cæterarumque
 rerum non-naturalium (ut vocant) mutatione identi-
 dem febre corripiuntur; propterea quod eorum san-
 guis nobis statum, & conditionem adipisci
 gessit, qualem ejusmodi aer aut victus postulaverint:
 minime vero quod particularum vitiosarum in sanguine
 stabulantium irritatio, febrim procreet.

'Tis true he did not pen 'it in *Latine*, but another
 (Mr. G. H.) for him: and perhaps his skill in that
 tongue may not be such, as to know when his thoughts
 are rightly worded: But it seems strange and irratio-
 nal to attribute such an understanding to the Blood;
 and to transmute a natural Agent into one that is
 spontaneous: and, which is more, having represent-
 ed it as such, to make it so capricious as not to know
 when it is well; but to run phantastically upon such
 dangerous changes as occur in putrid Feavers, and the
 Small Pox; for even in this last ariseth from a desire
 the Blood hath to change its state. Since natural Agents
 demean themselves uniformly, and of them 'tis most true,
Idem, quatenus idem, semper facit idem: I was surpris-
 ed to see these new principles, and to see effects of this
 nature arise without any cause. It doth not seem possi-
 ble for him ever to demonstrate that there is no Ple-
 thora, or Cacochymy, or obstipation of the pores of the
 body antecedent to a Feaver: nay the contrary seems
 evident to all Physicians; nor ever was there any
 whereunto they did not attribute some procatarrick
 cause. Besides, he doth not alledge any Reasons, or
 Experiments, to shew that there is any alteration in the
 blood before and after the Small Pox, or a Feaver, or
 any

any difference betwixt the Blood of such as have had those diseases, and of those which have not had them. So great a supposition ought not to be made without ground. And since it is natural (and Nature is constant) why is not the Disease more ancient and universal than it appears to be? For, if there be any grounds to think the Small Pox to be of long continuance, 'tis certain 'tis but seldom spoken of by any old Writer: perhaps once by Hippocrates (yet so as never to be understood by any that hath not seen the indisposition) and never by Galen. It may be imagined to have come from Egypt by contagion, and might have been called *Βυβαστις ἔλκην*, *Quia urbi Bubasti Egyptiae familiaris hic morbus*. It infesteth some places more than others. In Græcia non adeo frequens. Ideo antiquiores Medici vix ejus meminere. In the West-Indies it was not heard of till the Spaniards came thither: and they (as also the English there) seldom have it. I believe the Disease to be novel, and of no longer date than the Sarracenic revolution: I could instance in the nature of such great alterations, that they have ever been preceded and accompanied with many petty changes in other things: and if ever I have so much vacant time as to make political reflexions upon the rise of Mahomet, I may declare much to this purpose. This is that invidious subject about which Ecebolius Glandvill makes so much noise: as if, to avow that Mahomet were a Gentleman of noble extraction, married to one who for birth, riches and beauty might have been a Princess; and accomplished with that sober Vertue, Wit, Eloquence, and Education, by much travel (for he travelled all over Egypt, Africk, and Spain) as to render himself one of the most considerable of his Age: or to say that the Christians were so ignorant, and debauched, and perfidious, and addicted to Legends more than to the sound Doctrine of the Gospel, at that

A a

time,

Solmas. de an-
nis Climacter.

p 726, 727.

'Tis Epidemical to Egypt at this day.

Presp. Alpin. de med. Egypt.

l. i. c. 14.

Roderic. a

Fonseca Consult. Medic.

t. i. consult.

48.

time, that most of the *Fables* in the *Alcoran* were accommodated to the *honour* of the *times*; more than to *truth* (and so *Mahamet* told them) or to say he pretended to revive *Ancient Christianity*; were to be an *Apologist* for the *Mahometans*, and an abettor of the *Alcoran*: Whereas none but the *Illiterate* can deny *these things*: and the *Age* our *Virtuoso* speaketh of is the *Age* of *Apostacy*, according to the *Doctrine* of our *Church*. Oh *Heavens*! to what an height is *Impudence* and *Ignorance* arrived! Or what can be safe, if so *prudential* and *generous* a design as I had must be *calumniated* by such a *R*—— in *this manner*! But to resume my discourse, in the behalf of my opinion concerning the *novelty* of *this disease*, (besides what the learned *Mercurialis* hath said)

Roderic a Fonseca in append. ad loc. chin. de febr. c. 54. vide & Ranchin. de morb. puer. sect. 2. c. 1. p. 258. Hofman. Animadu. in Monton. c. 7. sect. 15. & Insit. l. 3. c. 109. sect. 1. & Nordicus noct. genial. 7 p. 456, 457.

I shall conclude with the words of *Rodericus a Fonseca*, which are these. “ *Si ex nativitate esset, ab initio mundi fuisset, aut saltem ita frequenter tunc, ut nunc solet esse: et licet antiqui aliquam de his pustulis mentionem fecisse visi sint, ea certe exigua est, & dubia, ut certum sit, vix illis temporibus fuisse talem morbum: negligentissimi certe habendi essent, si tam ingens, commune, & frequens malum; illotis manibus, silentio involuissent: & cum morbus sit puerilis, Hippocrates eas numerasset inter ætates, 3. Aphor. ubi diligentissime puerorum morbos connumerat; & tamen nullam hujus mali fecit mentionem: sed illud satis demonstrat, hunc morbum novum esse; quod in multis mundi partibus nunquam visus fuit, ubi nunquam apparuit, nisi postquam Hispani eo pervenere: siquidem per contagium Æthiopis cujusdam illuc delati, magnam Indorum partem sustulit.* ”

I might here insist upon the *Hypothesis* of *Doctor Sydenham*, concerning the *Inclination* of the *Blood* to change its state: I cannot believe but that the *Physicians* understood themselves as well before he writ;

writ; when it was said, that there was in every one that was born, something of impurity in the body, which was naturally to be purged out by an ebullition in the blood, and such an effervescence as terminated in those Abscessus called the Small Pox.

Quandoque accidit in sanguine ebullitio secundum semitam putredinis cujusdam de genere ebullitionum quæ accidunt succis: Avicenna de febribus, c. 6. de variolis.

Et talia quidem accidentia fiunt per eam, ita ut partes eorum ab invicem discernantur. Et de hoc est cujus causa est, res quasi naturalis faciens ebullitionem sanguinis, ut expellatur ab eo illud, quod admiscetur ei de reliquis nutrimenti sui menstrualis, quod erat in hora imprægnationis, aut generatur in eo post illud ex cibis sæculentis, & malis, de illis quæ rarificant substantiam ejus, & faciant eam ebullire, donec fiat & substantia recta, fortior prima & magis apparens: sicut illud, quod natura efficit in succo uvæ, ita quod rectificat ipsum, faciendo vinum similis substantiæ: & jam expulsa est ab eo spuma aerea, & fax terrena.

He that can English this passage will find in it the ebullition, separation, expulsion and despumation of our Doctor. In truth those terms, nor that which he imports by them are no novelty amongst Physicians: and Rhases (as Sennertus saith) doth not make any mention of those uterine impurities as the cause of the Small Pox, but compares the Blood to Must, in which some impurities are to be separated by Ebullition. Wherein the whole Hypothesis of this semi-Virtuoso is contained: However, I cannot allow any more to his Observations, than if a man should go without his doublet, and pretend to a new Mode of wearing Breeches. But that which is most intollerable in Doctor Sydenham is, that He seems to attribute all the evil consequences of the Small Pox to the indiscretion of those that attend them; be they Nurses, or Physicians. Thus (p. 150. Edit. 2.) he makes as if Nature did discharge it self in that disease into the fleshy parts

Rhases de pestilent. c. 1. Sennert. de febr. l. 4. c. xii.

Hor. Aug. de
febr. l. 9. c. xx.
Steph. Castren.
Quæ ex qui-
bus, l. 3. c. 16.
Th. Bartholin.
Cissa Medica,

P. 594.
Fernel. patho.
l. 4. c. 18. & de
addit. rerum
causis, lib. 2.
c. xii.
Collado obs. in
Holler. meth
c. 92.
Io. Dan. Horstii
obs. Ana-
tom. 9.

Dr. Sydenham,
P. 138.

In genere
melius est va-
riolos & mor-
billos isto,
quam tarde
erumpere.
Sennert. de
febr. l. 4. c. xii.

only: so that if the *Eyes, Lungs, Stomach, Guts, Pan-
creas, or Membranous parts* be affected, 'tis not the *vio-
lence of the Disease*, but the *ignorance of the Attendants*
which occasioned *that*: which is *intolerable* for any
man to say, and refuted by *Experience*.

I might proceed to demonstrate that there is not *any
thing new* in the whole *Cure* which Doctor Sydenham
useth: that in the beginning of the *Small Pox*, before
the *eruption*, being as ancient as *Bayrus*, it not derived
from the *Arabians*: And the rest hath been inculcated
by an *hundred Writers*: provided the *Small Pox* were
gentle: yet, as much as they have been for the keep-
ing of them *moderately cool as to Air, or Diet*, before the
eruption of them; yet I dare say our Doctor is the *first*
whoever did imagine that the *longer* they were in
coming forth the *better* it was. *Mihi quidem rationi
consentaneum videtur, ut quo diutius Natura separatio-
nem molitur, ac perficit, dum modo ebullitio non omnino
torpeat, eo certius atque universalius eadem separatio ab-
solvitur.* For our best Writers, as *Mercatus, Augenius,
Forrestus, Sennertus, Riverius, Ronchinus*, and others,
do avow, that the *sooner* they appear, the *better* is
the *presage*. But all this while his discourse extends
no further, than to that sort of *Small Pox* which is
mild and favourable, not accompanied with any peril-
lous or *mortal Prognostics*. but should any such case
happen, these *two Doctors* leave us in obscurity, and we
must help our selves, for they give us little of *ass-
istance*.

I shall therefore proceed to enquire what *directions*
the most *judicious Writers*, and *Rules of our Art* pre-
scribe unto us in *this Disease*.

It is confessed that the *Small Pox* are sometimes so
mild as not to be accompanied with any *Feaver*, or evil
symptome at all, so that the *Patient* need not be con-
fined

finer (at least is not) to his Chamber, and any strictness of Rules: This is granted by *Avicenna*, *Rhases*, *Schenckius*, *Hollerius*, *Epiphanius Ferdinandus*, *Coyttarus*; and *Franciscus Rubens*, whose words are these: *Variolæ aliquando sine febre, & aliquando cum febre mihi & placidissima, nonnunquam cum febre acuta, & quondamque cum febre maligna erumpunt.* In this case there is no doubt but the Physician may do nothing, and ought to do little, there being no need of his assistance.

Coyttarus de purpur febr.
p. 245.

Rubens Noturn exer. 7.
in Scholiis.
p. 104.

It is confessed that sometimes the Small Pox are attended with so gentle a Fever, of the nature of a *Synochus simplex*, that the Patient may do very well, by the directions of Doctor *Whitaker*, and Doctor *Sydenham*. Yet must I add, that, supposing the truth of these two Cases, I cannot conceive it proper to imagine that the Small Pox are then a Critical motion of Nature: there being in the one juncture no Disease whereof they should be a Crisis; in the other no such Disease as to discharge it self in so copious an evacuation. The Notion of a Crisis in the production of the Small Pox will seem more absurd, when we consider how frequently it happens, that notwithstanding their coming out plentifully, the Fever doth still continue, and increaseth the dangers of the Patient. Besides, How is it a Crisis, when there seldom proceeds any Coction, and when the preceeding Disease observes no times?

Of those Diseases which terminate by a Crisis there is a great variety in the evacuation ensuing thereupon, as an Hemorrhagia, looseness, sweat, profusion of urine: but here, whatsoever the nature of the Disease be, a *Synochus simplex*, putrid, malignant, or tertian Fever, the Crisis by the Small Pox is constantly the same: and the expulsion not only towards the skin and habit of the body, but every way, as on the Stomach, Throat, Lungs, Guts, &c. and after this kind of Crisis it frequently

Joseph de Me-
dicis apud
Greg. Horst.
t. 2. p. 56.

Hor. Auger,
de febr. l. 9.
c. 5.

quently happens that the Patient dyes, no error inter-
vening: whereupon Joseph de Medicis exclaims after
forty years of practise. *Hei mihi, quoties malitiosæ
variole me fefellerunt!* And Augenius, though he be
inclined to the Opinion of Doctor Whitaker, to ex-
plain this Crisis, is forced to desert the vulgar notion of
a salubrious Crisis, and include in its definition, even
those that are noxious, saying out of Galen: *Crisis est
mutatio quædam subita ad salutem, aut mortem:* and
after all concludes thus: *“Hæc si vera sunt, osten-
dunt rectissime dixisse Arabes, variolas contingere per
modum cuiusdam Crisis: siquidem modus quidam
est particularis, quo febris magna sanari crisi con-
suevit, longe distans ab aliis. Omnes enim aut per vo-
mitum, aut per alvum, aut per urinas, aut persudores
sanantur; ut huiusmodi febris nullo ex illis sanatur
modis, sed per solam superficiem, non extimam solum, ut
ardentes febres, quæ sudore copioso superveniente libe-
rantur, sed extimam & intimam simul, utque sic per
abscessus parvos, quos pustulas nuncupavimus, ubique
procreatos. Nunquam alvi fluore, nunquam vomitu
sanantur; imo si forte adveniant, pessimum signum est.*
But if we take Crisis and Critical evacuations in this
sense, 'tis certain then that a Physician may and
ought frequently to intermeddle, notwithstanding that
Nature is already engaged critically, and the founda-
tions of this Doctor are thereby overthrown.

Avicenna de
febr. c. 6. with
whom agrees
Fracastorius,
and, I think,
the generali-
ty of Physi-
cians, who make
it to bear
some resem-
blance of a
Crisis, but not
a Crisis.

I add, that if the motion of the Small Pox be critical,
then is not the Small Pox properly a Disease of it self,
but the termination of one. And therefore the
Arabians did prudently say, that the Small Pox do hap-
pen, *per viam cuiusdam criseos*, in the way of a Crisis, not
that they are properly the Crisis of another disease.
They are generated by an effort of Nature, which
dischargeth it self of certain humours which are offen-
sive unto her by their quantity, or quality; and this is
done not by their eruption in the exterior parts, but
even

even in all the *entrails*, and other internal parts: and sometimes this *evacuation* is a discharge of so *crude*, *malignant* matter, that it is *destructive* to the sick: which is not usual in a *Crisis*: and this is that which the *Arabians* call *Ebullitio secundum semitam putredinis*; which made *Fernelius* and others ascribe thereunto a *venenate* quality. “ *Hoc & morborum feditas testatur, tam deformis aliquando visa, ut occæcutis oculis, universa cutis in squammas fetidas & in crustas ingentes solveretur: corpus omne non aliter contabesceret & macie nigroreque torreretur, quam si menses quatuor e furca pendisset.*

Fernel. de abdit. rer. causis lib. 2. c. xii.

It is avowed that there is more than one sort of *Feaver* which is antecedent to the eruption of the *Small Pox*: and *common Reason* will tell us, that in such cases the *Physician* must vary his *Method*: if the *Feaver* be a *Synochus simplex*, without any *putrefaction*, 'tis not to be doubted but that the *Small Pox* may be cured by the course prescribed by *Doctor Whitaker*, and *Doctor Sydenham*: but what if it be a *Synochus* joyned with *putrefaction*, or *malignity*? Must we then abandon *Nature* to her self, and stand *Idle Spectators* amidst so great and *visible* dangers? If the *Small Pox* be a *Crisis* of the *Feaver*, what influence hath that *consideration* upon us, before the time of the *Crisis*? Are we not obliged to *facilitate* and *secure* the *Crisis* by convenient means before it approach? May it not otherwise happen that there will be too great a *redundancy* of *humours*, so that *Nature* will not be able to *guide* them orderly, and for the benefit of the *Patient*? Do not we see this frequently to happen, where no *irritation* hath been through *Sudorifics*, or other *Medicaments*? Doth not it often happen, that *Nature* not being able to command the *turgent humours*, they have so fixed themselves in several *principal parts*, occasioning *Swoonings* or *Syncopes*, *Dysenteries*, as to destroy the *Patient*

Joh. Michael
Fabr. de Scor-
zonera. p. 81,
82, 83.

Patient in the *beginning* ? or so to imbecillitate him, that he hath afterwards languished in a *Consumption*, been deprived of his *eyes*, or *limbs*, and subjected to incurable *Ulcers* ? It was observed in *Germany*, in 1644. that the *Small Pox* reduced some to an *Atrophy*, *Asthma*, and *Consumptive coughs* : some have had not only the *habit of their body* strangely vitiated and altered ; but even their *bones* corrupted and corroded into a *Pædorthrocæ*, or *Spina ventositatis* : some have had the *Articulation* of their *Joynts* so depraved, that they have become *immoveable*, or *crooked*. Oftentimes we see that after the first *Feaver* is abated, and the *Small Pox* come out in great plenty, a *looseness* follows, or a new *Feaver* prevents their maturation and destroys the Patient.

Forrest. obs.
lib. 5. cbl. 44.

From these Considerations I dare confidently deduce this Conclusion, That it becomes a *Physician* in the *Small Pox*, to examine well in the beginning, the constitution of the Patients body, if it redound with peccant *Humours*, or no : it being easie to apprehend, that what is a *Cacochymy* before this Disease, will degenerate into a *virulency* and *malignity* in the course of the Disease : If it redound with too much *Blood*, as having more than is requisite for the commodious discharge of that Disease : for if the body be either way *Plethoric*, there is apparent danger least the Patient be strangled, or that the *turgent Humours*, being either streightned for want of room, or too *luxuriant* to be guided, will fall upon some *important part*, and so create inseparable evils in the progress of the distemper. He ought also to inquire diligently into the preceding season of the year ; since that adds much to the mildness or perillousness of distempers : As also into the present sickness, whether it be in others attended with any thing of *unusual malignity*, or *pestilence* : for in such a case, he must increase his care, as dangers multiply. He ought

ought also to weigh well the first *Symptomes*, whether they be so *violent* as that the *Patient* is not likely to have strength to support the *continuance of the Disease*: If the *Feaver* be great, and accompanied with *swoonings*; if the *Patient* being *thirsty*, *restless*, molested with a *vomiting*, *difficulty of breathing*, a *dangerous Cough*, *violent* and *ill-coloured Diarrhæa*, or *Dysentery*, *bloody* or *black Urines*: It is not to be doubted in *these cases*, but the *Physician* is to make such provision, that so *ominous a beginning may conclude well*, if it be possible. And since so great a distemper requires great and *generous remedies*: two things will at first (if he come timely enough) fall under his debate: *viz. Phlebotomy*, and *Purging*.

Hor. Auger.
de febr. l. 2.
c. 1.

Concerning *Purging* many are very *timorous*, because that a *Looseness* is *dangerous in the Small Pox*: as also because that they fear least it should divert the *Humours* from their *natural tendency*, and draw them into the *Bowels*. But neither of these Reasons are of any great validity. For neither is a *momentary Looseness* (and 'tis that which is equipollent to a *Minorative purge*) dangerous in the first beginning of the *Small Pox*, before they come forth: Nor is there any danger that a *gentle Purge* should create a *Flux*; but rather prevent any such *subsequent evil*, by carrying off the *peccant Humours*, which by continuing in the *stomach* and *intestines* would contract a *malignity*. And indeed *this consideration* is of such importance, that it ought to sway a *Physician* to give some *Lenitive* in the beginning, when he sees occasion. Neither will he thereby divert Nature from the *expulsion*, but rather facilitate it, and by diminishing part of the *redundant Humours*, enable her to overcome the rest with more ease: whereupon *Augenius*, *Ranchinous*, *Franciscus Rubens*, *Riverius*, *Gregorius Horstius*, and other excellent *Practitioners* do take *this course*. And *Ballonius* observes:

Ballon. Epid.
l. r. p. 37. vide
Forrest. obl.
h. 6. obl. 49.

An commodè præscribi possunt medicamenta anti-
quam morbilli se produnt? An illa impediunt motum
naturæ? Imo inopinato venam secumimus, & medica-
mentum purgans dedimus, quibus die sequenti, aut po-
stridie apparerent variole, & melius multo habuerunt,
quam quibus non ausi fuerimus idem exhibere: sic pa-
rum probabile, quod dicitur, minus affatim erum-
pere populas si corpus ante purgaveris.

As for Phlebotomy, were it not for capricious humours, or indiscreet fears of some persons, there could be no question about the legitimate use thereof in this Disease. For there is not any Indication for Blood-letting which may not occur in the Small Pox: And 'tis as vain a surmise to think that an intelligent Practitioner will do any thing rashly; as 'tis an irrational course (though too common) to censure Men for the ill success, when they act according to the best of their judgment, and the most solid Rules of their Art.

Ferdinand.
Mena com-
ment. in lib.
de sang.
emiss. c. 22.

The present Controversie includes two Debates: The one Concerning Phlebotomy in the beginning of the Small Pox, before their eruption: The other Concerning Phlebotomy after their eruption. In both which cases I do avow, that Phlebotomy may be oftentimes prudently, and sometimes is necessarily administred. I use this manner of speech, because that Physicians do make a twofold use of Blood-letting: One, when the nature of the Disease and its greatness do absolutely require Phlebotomy, as the most proper Medicine, and without which in all probability the Patient will run an apparent hazard of his life: A second, when it doth not seem so absolutely necessary to Phlebotomise the Patient, but he may recover by other means, without it: yet because this is the most rational and safe way, Physicians do insist thereon, that so Nature being disburthened

shen'd and alleviated in part thereby, may with more ease
 overcome the rest. Thus in some Diseases Galen pro-
 fesseth he omitted to bleed some Patients, because they 4. de saint.
 would not indure it: whereas had he esteemed it tuend.
 extreemly necessary, he would not have declined that
 Remedy, and used a Purge instead thereof: But he
 looked on it then only as a most convenient Remedy.
 From whence I deduce, that whensoever any man reads
 any Author that doth not practise Phlebotomy in the
 Small Pox (as J. Michael Fehr, and one Langius, now
 Professor of Physick at Leipsich, or Angelus Sala) the
 uselesness or danger of the Remedy is not to be con-
 cluded thereupon: since it is evident that Physicians
 are enforced often to comply with the Humours and
 prejudicate Opinions of their Patients, and the Countries
 where they live; and do not alwayes act according to
 their best judgment: Nor doth it follow, that because
 the imprudence of some hath been, or is successful;
 that therefore we ought to relinquish the more wise
 courses, or condemn as needless those cares which Dis-
 cretion it self doth put us upon. Neither ought we
 to be swayed by the Negative testimonies of Wri-
 ters, or Practitioners: For it doth not follow that what
 one (or more) hath not tryed, or seen, is impossible,
 or impracticable: The happy Experience of the Af-
 firming party is the most convincing: as our com-
 mon Logick informs us. They who condemn Phlebo-
 tomy in the Small Pox, either condemn it because they
 have experienced its evil effects therein; or because
 they have only a sinister opinion of it, and some speci-
 ous reasons against it: If the last; they say nothing of
 moment: it being the dictate of Hippocrates, *Ορδυν-
 ασις δὲ τῆς μελέτης μάλιστα, ἢ γυμνασίου.* And Aristotle long a-
 go censured those who out of a preconceived opinion
 of the event of a thing did form their judgment; and
 imagine it must happen so, or so, because they think it
 will do so. If they have so often tryed the evil suc-

De diæta, l. i.
 c. 5.
 Frederic. Bo-
 naventura de
 partu octo-
 mestri. l. 5.
 c. 64.

cess thereof, 'tis necessary that they confess they have killed a great many thereby : or at least that they profess they have seen the *sad Experiments* thereof made by others : and to make this any way convincing, they must first assure us that such *Experimentators* were *Artists*, and understood their *Faculty* so well as to weigh all circumstances requisite to the due administering of *Phlebotomy* : otherwise the *Actions* of the most judicious shall be condemned through the ignorance and folly of others : and it must be demonstrated, that the death or other evils which befell the sick, were the direct consequences of the *Phlebotomy* ; and not by accident, and from some particular juncture, or misam : least we commit the Fallacy of *A dicto secundum quid, ad dictum simpliciter*.

p. 27.

Doctor Whitaker is pleased to call the practise of *Phlebotomy* in the *Small Pox*, the *Mode* of France ; and makes as if that were the principal Argument produced for it. viz. " The greatest Argument to confirm this practise, is, the *Mode* of France : by the same argument they would prove stinking and putrid flesh, both of fish and fowl to be most comfortable to the sense, and corroborative to the Animal spirits : and if their Rhetorick be no better than their Logick to persuade persons of reason and sense to accept their *Mode*, it is most probable it will prove the *Rumismata* of Galen, which is a quere that will pass no further than their own Countrey. — He afterwards call it the

p. 28.

rash practise of *Modish* persons : adding, " I call it a rash and inconsiderate practise in this Disease, because it is a doubt indetermin'd amongst the most learned Professors of all Nations, both Greeks, Arabians and Latines, and all others principled from them ; being all of them unresolved of *Phlebotomy* in the *Small Pox*, upon any Indication to be a safe Remedy : And if the disease be conjunct with

an undeniable plethory of blood (which is the proper
 Indication of Phlebotomy) yet such bleeding ought to
 be by Scarification and Cupping-glasses without the cut-
 ting any Major vessel. ——— Assertions so general
 and peremptory as these are ought to be very well ground-
 ed, or else they subject the Author to the imputation of
 Opiniatry, and Ignorance. I will not deny but some
 may have justified their practise by the customary pre-
 sidents of the French Physicians; who neither want
 sufficient knowledge in their Faculty, nor prosperous suc-
 cess to urge against all Cavillers: And this they may
 have done, not that ever they could judge it a Mode
 peculiar to the French, but because that Nation is
 our next Neighbour, and so well known unto us, that
 they needed not extend their discourse further: nor do
 there want reasons to shew that If it be requisite for
 the French, and they can bear it: It is more requi-
 site for us, and we can better tolerate it. For
 our diet is more plentiful, our habit of body more firm;
 our innate heat, by the coldness of our Climate, more
 concentrated and vigorous; our redundance of blood is
 greater: and our pores more dense and apt to be obsti-
 pated, than theirs; and if we may aggravate the ma-
 lady from the dismal effects and impressions it produ-
 ceth in the faces of the sick, I think I may say it (I ne-
 ver was in France) that the Small Pox are worse in
 England (which indicates greater Remedies, for the
 most part than in France, since the disasters which be-
 fall good faces are more frequent and notorious here
 than amongst them.

But, I do affirm that this practise is not only the
 Mode of France, but of Spain and Italy as well as
 Egypt and Africk; and that 'tis authentick in high
 and low Germany, and Denmark: And whereas he
 says that the usefulness of this Remedy, is a doubt in-
 determined amongst the most learned Professors of all
 Nations, both Greeks, Arabians, and Latines, and all
 others

others principled from them: It is a gross mistake: and there is more of truth in that opposite saying of

Hor. Aug. de
febr. l. x. c. iv.

Augenius: "Omnes, qui de variolis scripserunt, unanimi consensu, principium curationis, illarum fieri debere a vacuatione sanguinis contendunt, ideoque venam incidendam esse, aut scarificationes administrandas, aut hirudinibus applicitis sanguinis vacuatione procurandam.

Hippocr. Epid.
l. 7. p. 894.
cum notis
Valesii.

Concerning the Greeks, I have considered the passage in Hippocrates concerning the Son of Timonax, and whatever else is alledged out of him, or Aetius, yet cannot be satisfied that ever they knew any thing of this disease. They that do believe it (as a strong imagination may transport a man far) may reply, that since the Malady was rare then, and different much from ours 'tis not to be wondered that they speak so little of the Cure; and never determine a doubt which they never thought of. As for the Arabians nothing is more certain than that they considered the disease, and all circumstances, and did determine in the behalf of Phlebotomy; and whosoever is principled from them (as all in a manner of the subsequent Physicians have been) must allow thereof. I do not remember to have read that any of them did ever prohibit Phlebotomy in this case, except it be Avenzoar, who is said to have given the like directions that Doctor Sydenham doth, viz. To do nothing in a manner: but relinquish the work to Nature entirely. How Avicenna determines the doubt, his words will best shew. Oportet in

Avicenna de
febr. c. 10.

variolis ut incipiatur, & extrahatur sanguis sufficienter, cum conditiones fuerint. Et similiter si morbillus fuerit cum repletione sanguinis. Et spatium illius est usque ad quartum. Sed quando egrediuntur variolae, non oportet tunc ut administraretur phlebotomia, nisi inveniat ur vehementia repletionis, & dominium materiei: tunc enim phlebotometur quantitate quae alleviet, seu minoret. Et convenientius quidem, quod in hac
admi-

administratur ægritudine est phlebotomia. Et si
 phlebotometur vena nasi, confert juvamentum fluxus
 sanguinis narium, & tuetur partes superiores a malitia
 variolarum. Et est magis facilis super infantes. Et
 quando necessaria est phlebotomia, & non phlebotomatur
 iterum complete, timetur super ipsum corruptio extre-
 mitatis. Whence it is apparent, that amidst such cir-
 cumstances as amongst Physicians usually seem to re-
 quire Phlebotomy, he doth allow the practise thereof in
 the Small Pox, before they come out, be it on the fourth
 day, or later that they discover themselves. After
 they do appear, he alloweth not, except there be a
 manifest plenitude, and surcharge of morbid humours,
 then he alloweth only a minute letting of blood, and
 not what is too copious: and adds, that in this disease
 it is most convenient to let blood; and if the Patient
 be not blooded in a Plethoric constitution, and that by
 a repeated phlebotomy, according to the exigency of the
 case, that is, compleatly, there is danger least the party
 suffer the corruption or loss of some of his limbs by a
 Gangrene, or other evil accident: for when the redun-
 dancy of the expelled matter is such, that it cannot du-
 ly mature and transpire in the pustules, it frequently
 corrodes the ligaments, and tendons, and otherwise vi-
 tiates the remoter parts of the body; even Worms
 have been bred in a pestilential Small Pox, all under
 the pustules: as at Stralsund, in 1574. Sometimes the
 matter not finding room to disburthen it self in the
 circumference, turns its course into the bowels, and be-
 gets mortal Diarrhæas and Dysenteries. Of the same
 opinion is Rhases, as appears by what is extant amongst
 the Scriptores de febris: viz. " Si antequam appa-
 rere incipiant, medicus ægrum inveniat, minuire eum
 faciat, aut cum ventosis sanguis extrahatur. Minua-
 tur equidem sanguinis multitudo. It is true,
 that there he prohibites Phlebotomy after the Pox come
 forth: but I find him cited by others as concurring
 with

Joseph de Mo-
 dicu apud
 Greg. Horst.
 t. 2. p. 46.

Fr. Joël. prax.
 l. 9. sect. 5.
 sect. 2.

Rhases (inter
 Scriptores de
 febris) c. 18.

Rhases 18.
Cont. 8. citan-
te Diomed.
Amico in |
tract. de va-
riolis. c. x.

Horat. Augen.
de febr. l. x.
c. 3.

Botallu de ve-
næ sectione,
c. 5.

Serapion (in-
ter script. de
febr. c. 12.

J. C. Claudinus
Empir. ratio-
nal l. 5. sect. 1.
c. 1. p. 286.

with *Avicenna* as to bleeding even at the nose, as ex-
tremely beneficial; and to approve of *phlebotomy* after
they come forth, in case the Patient find no *alleviation*
thereupon, but there continue signs of a *plenitude*, or
redundancy of ill humours, a great Feaver and diffi-
culty of breathing. But there is another piece enti-
tled unto *Rhases*, wherein how indulgent he is to *Phle-*
botomy you may learn from *Augenius*. “ *Rhases libro*
suo de peste, capite sexto: mittendum esse sanguinem
vult pro quantitate plenitudinis; si enim maxima fue-
rit, non veritur vacuare usque ad animi deliquium: si
mediocris, mediocriter educit: si parva fuerit, paulum
sanguinem educit: verba ejus sic habent. Tu ve-
nam incidito, & quam multum sanguinis ef-
fundito: scil. ad sanguinis defectionem usque.
Supra vero syndromen attulit maximæ plenitudinis, &
paucis interpositis inquit. Cum vero hæc signa ad-
modum evidentia non erunt, veruntamen ve-
hementia quidem, parum sanguinis fundito:
Sin minime, minimum: hæc ille. How suc-
cessful so large bleeding may be (though *Augenius*, and
Ranchinus and others condemn it, we may judge by the
practice of *Botallus*. To these I add the authority of
Serapion, which runs thus. “ *si hæc febris fuerit*
propter causam variolarum, & virtus & ætas consentit,
tunc non aliquid magis jubatibum quam phle-
botomia venæ. Et si aliquid prohibet phlebotomiam,
tunc oportet ut administrentur ventosa. Out of which
it is evident, that the generality of the *Arabians*, were
of a different sentiment from what Doctor *Whitaker*
ascribes unto them: and *Claudinus* is less mistaken
when he (as do many others) avoweth, that The
Arabians universally agree to let Blood in the
Small Pox, upon occasion. Nor is there more of
truth in that which follows in our Doctor, viz. that
Their followers have not determined this doubt.
For though two or three may seem refractory still in
the

the World, yet it is not amongst *Physicians*, but amongst them that are not *Physicians* that the doubt is indetermined. I shall take some pains to undeceive this Age as to the present point.

Gordonius's words are these ; ^{c c} *Inprimis si corpus est Plethoricum, aut si sanguis dominatur, aut virtus est fortis, fiat Phlebotomia de mediana, & postea de summitate nasi : i. e.* In the first place, if the body be plethoric, or if the Disease be such as is attended with abundance of blood, or if the Patient be strong, let him bleed first in the middle vein, and afterwards at the Nose.

Gordonius :
lilium Medi-
cinæ, part. 1.
c. 12. de va-
riolis.

Petrus Bayrus having repeated the signs of the *Small Pox*, when they are violent, adds : ^{c c} *His apparentibus statim fac Phlebotomiam copiosam, prius scilicet quam variolæ ad extra appareant : licet possit fieri etiam ipsi incipientibus apparere, stante multa repletione ; non tamen tunc fiat ita copiosa, sicut ipsi non apparentibus : dicente Avicenna, in casu, Extrahatur sanguis quantitate quæ exiret, hoc est minoret : i. e.* when the *Small Pox* begin with such a vehemence of symptoms, presently take from the Patient a large quantity of Blood, before the *Small Pox* begin to come forth : yet may he also be let blood after they begin to appear, if there be a great repletion, but yet not in so large a manner as otherwise : for so *Avicenna* directs in the case : and let the Patient bleed in such a quantity as may dry the habit of his body : that is, you may lessen the quantity of the morbidick matter, so to bring them forth to a kind maturation, but not so as to divert Nature from her work.

Petrus Bayrus
de pest. in ca-
pite de vario-
la & morbil-
la.

I shall not trouble my self to repeat the words of others at large ; but refer my Reader to the places cited. *Horatius Augenus*, one of our best Writers upon the *Small Pox*, (and who protests he writes nothing in order to its Cure, but what six and forty years

Hor. Augenus, de
febr. l. x, c. 9.

¶ Ibid. c. 3.

Experience had convinced him of to be good) doth allow, in difficult cases, and when the Disease is somewhat pestilential, that the Patient bled first at the Arm, and then at the Nose, by irritating it with Tarrow, or Horse tayl.

I. C. Claudinus

Empir. rati-

on. l. 3. sect. 1.

c. 1.

Dilectus Lus-

tanus de ve-

naz sectione.

c. xi. Artic. 1.

p. 145.

Epiphanius

Ferdinandus

cas. Medic. 78.

Emil. Compol.

de variolis,

c. 413.

Christo. a Vega

de arte med.

l. 2. sect. 7. c. 1.

Lud. Mercatus

de puer.

morb. l. 2. c. 22

Vide etiam

Ludo. Mercat.

de febr. l. 7. c. 3

de de recto

Medicinal.

praesid. usu.

l. 1. c. 4. &

Anton. Ponce

Sanblacruiz. de

impediment.

magn. auxil.

l. 3 c. 18.

With him agrees the cautious and learned Practitioner *Juleus Caesar Claudinus*: who doth debate, and determine this doubt: as also doth *Dilectus Lustanus*, in his Treatise of *Vena-sectione*: and *Epiphanius Ferdinandus*, and *Emilius Campolongus*. Neither is it to be questioned, but that this is the common practise of all Italy; so that I shall cite no more of that Nation.

In Spain 'tis approved of by *Christophorus a Vega*, whose words are these. “ *Si vero lacta fuerint va-*
riola, & ab humore fiant crassiore, ab initio sanguinem
mittere, si febris adfuerit; sine ipsa vero minime.
 And the best of Writers, *Ludovicus Mercatus* is thus peremptory in his Resolution. “ *De sanguinis*
detractione nullus usquam dubitavit, aut id sine ratione
fecit, nisi aut vires sint adeo dejecta, quod neque mini-
mam, citra majus damnum ferre possint, aut affectus
adeo levis, aut benignus existat, quod satius sit natura
committere, quam ipsam infirmare sanguine missio, vel
sanguinis copia adeo parva, quod exquisitiori victus in-
stitutione securius rem possis agere quam aliis praesidiis,
quae licet aliquo modo possint convenire, non subinde
sunt ita secuta & certa, quod eis prorsus fidendum sit.
i. e. Concerning Blood-letting no man ever did doubt thereof, or if he did, he did it without any reason, except the Patient were so weak that he could not endure it without greater hazards, or that the disease were so mild and benign, that it seemed better to leave all to the strength of Nature, without debilitating any way the sick person, or the redundance of blood and peccant humours so inconsiderable, that the Cure might be wrought

wrought by a *diligent attendance* and *well-ordered diet*, without employing any of those Remedies which how convenient or *safe* soever, yet (according to that fate which disposeth of all humane affairs) may sometimes have an *evil issue*, and are not therefore *needlessly* to be presumed upon.

In Portugal I find *Rodericus a Fonseca* to approve of *Phlebotomy* in this disease: As also *Stephanus Rodericus Castrensis* avoweth its utility upon his own Experience.

I might add others, but that this is the general practise of Spain, is so indisputable, that I should but abuse the patience of my Reader.

Roderic. a Fonseca in appen. ad Jacchin, de febr. c. 54. & Conf. Medic. l. 1. conf. 48. *Steph. Roderic. Castrensis. Quæ ex quibus. l. 3. c. 16.*

I now come to Germany, and Denmark, where the most learned, and the most eminent Physicians that we hear of, have admitted of this Remedy. The beneficialness thereof was experimented by that famed Practitioner, *Forrestus*.

“*Solet enim mirifice prodesse in hoc affectu hoc auxilii genus, modo tamen fiat in principio, antequam morbilli aut variolæ egrediantur.*” i. e. It is usually of marvellous

benefit to the Patient, if he bleed before the Small Pox or Measles do come forth: Whereupon he did ordinarily begin his Cures therewith, and saith, that undeniably it ought to be so, if all requisite circumstances concur. *Felix Platerus* (a man of principal esteem in Switzerland, and Germany) recommends it to our practise,

“*Sanguinis detractio per venæ sectionem in brachio facta ab initio, si Synochi hæ sunt febres, cu juscunque generis, ad sanguinis accensi, vel simul putridi, vel maligni etiam portionem educendam, causamque sic minuendam, in adultis plurimum competet. Quæ & infantibus majoribus, cum in minoribus natu non liceat, non inutiliter administraretur. Quæ tamen, si jam maculæ & pustulæ eruperint, ne naturæ motus impediat, omittenda erit.*” i. e. Bleeding in the Arm,

Forrestus obs. lib. 6. obs. 47. in Scholio: & ibid. obs. 46, 49.

Felix Platerus l. 2. de cur. variolar. inter opera, p. 200.

when it is practised in the *beginning*, if the *Feaver* be any kind of *Synochus*, arising from the inflammation of the mass of blood, or its being putrefied, or vitiated by any *malignity*, will be of great benefit to those that are of *Age*, to lessen the morbid matter, and abate the violence of the cause of the distemper. It might also be done to *Children* of some bigness (not to little ones) may be profitably. But if the *Pox* becoming forth it is to be forborn, least it cause them to retire in, Neither is it a common Elogy for this practise, that *Gregorius Horstius* commends, and justifies it.

Greg. Horstius
oper. medic.
t. 2. l. 6. in ap-
pend. de va-
riola: & ibid.
de febr. l. 1.
Que ult.
I. Dan. Horstius
epist. x.
Sennert. de
febr. l. 4. c. xii.

And his learned Son, *Jo. Daniel Horstius* asserts the the judgment of his *Father*. As cautelous as *Sennertus* would seem, he only doubts concerning *Phlebotomy* in *Children*, not in others. *Si tamen in etate, quæ venæ sectionem perferre possit, sanguinis abundantia venæ sectionem postulet, mox in principio ante quartum diem, aut sane prius quam variolæ erumpant; dum vires adhuc constant, & sanguinis tanta copia ad ambitum corporis confluit, vena aperienda, ut natura oneris parte levata, quod reliquum est facilius vincere possit. Post quartam autem diem, & ubi maculæ erumpere incipiunt, abstinendum a venæ sectione; inprimis si jam æger melius habere incipiat, ne materia ad ambitum corporis tendens ad interiora revocetur. i. e.* But if the *Age* of the *Patient* be such as to be able to endure *Phlebotomy*, and the *redundance* of blood be such as to make that *Remedy* necessary, a *Vein* must be opened before the fourth day, and whilest yet the *Small Pox* are not come forth, the strength not being yet impaired, and the blood so *immoderately* discharging it self upon the *exteriour* parts of the body: that hereby *Nature* being disburthened of a part of what molested her, may the more easily concoct and subdue the rest. But after the fourth day, and when they begin to come forth, *Phlebotomy* is not to be used, especially if the *Patient* seem alleviated, least thereupon the matter be drawn back.

back which was hastening unto and fixed in the habit of the body. To these may be added *Baldassar Ti-
maus*, Physician to the Elector of *Brandenburgh*, who
after thirty six years of practise approved this course:
and *J. Petrus Lotichus*: as also the younger *Sebizius*,
now Professour at *Jena*; and *J. Christianus Fromma-
nus*, a Physician in *Saxony*: and *Franciscus Joel*: In
Denmark I find *Bartholinus* to be resolute for it, be-
fore the *Small Pox* do come out: and if they do not
come forth kindly, but that symptoms of an evil pre-
sage multiply upon the Patient, he allows a minute
bleeding then, and sayes many have been happily
recovered by these means. And so much for Ger-
many.

*Baldassar Ti-
maus* col.
medicin. l. 8.
c. 29.
*J. Petr. Loti-
chus* lib. 1.
obs. medic. c. 7
obs. 13
D. Sebizius
disp. de vari-
olis ult. qu. 4.
*J. Christ. From-
man.* discurs.
medic. sect. 97
103.
Fr. Joel pract.
l. 9. sect. 5. § 2
Th. Bartholin.
Gissa Medica,
p. 60. Also
*Hoeserius Her-
cul.* medic. l. 7.
c. 6. and
S. Hoesenreffer
de morb. cut.
l. 2. c. 4.

In *England* the paucity of our Writers upon this
subject gives me no opportunity to defend Doctor *Wil-
lis* by the citation of any Book: 'tis enough, that since
the original and first records of the Disease no other
Method than what he pursues, hath been commonly
proposed: that the generality of the world, the wisest
of Physicians, the most able and judicious of our Pro-
fessors principled by *Avicenna*) do approve thereof:
'tis not bare compliance with the Mode of France,
but the Dictates of Reason, confirmed by a prosper-
ous success in several to my knowledge: I would fain see
any man justifie the *Rhodomontade* of Doctor *Whita-
ker*, by producing ten Physicians that reject *Phlebotomy*:
I remember none but *Fracastorius*, *Langius*, *Rolsinckius*,
and *Denfingius*, and one or two more, and a company of
old *Wives* and *Nurses*. I never yet *Phlebotomised* any;
yet 'twas because I either had no exigency for it, or the
Patients were too timorous to admit of it. But were
my own life concerned, I would undergo it: and I
hope the *Baconical* Philosophers have not so irrecover-
ably infatuated this Nation, but that we may come to
be

be undeceived in this point, as well as we have been in others.

Although it be not my intention to write an *intire Tract* about the *Small Pox*, yet that I may demonstrate the *Rationableness* of their procedure who do *let blood* in the *Small Pox*, 'tis necessary that I acquaint my Reader with those *cases* wherein they do apprehend themselves obliged to *act as they do*.

In the cure of the *Small Pox*, whensoever a *Physician* employs his thoughts about *Plebotomy*, he considers the *Feaver* which attends it; and the *dangers* into which the Patient is likely to fall: and the *strength* he hath to bear them: not to mention those *considerations* which arise from the *general season* of the year, or the *particular malignity* of the Disease at *that time*, or the *idiosyncrasy* or peculiar temperament of the sick, or what is *singular to some families*. In the *Small Pox* there happen frequently *three sorts of Feavers*: one in the *beginning*, which usually terminates on the *fourth day*, or when they *come forth*: Another which begins when the *Small Pox* begin to come to *suppurate*: according to that old saying, *Febris fecit variolas, & variolæ febrem*. And a third, which either ariseth afresh upon *their coming forth*, or is the continuance of the *primary Feaver*, which if it abate not upon their eruption, creates *new cares* and troubles in the *Physician*.

As to the *Feaver* which is antecedent to the *Small Pox*: though *sometimes* there be *none* at all: and *sometimes* it be so gentle as not to create any *mis-apprehensions* in the *Doctor*, or *Sick*; yet frequently it happens to be joyned with *putridity*, or *malignity*, or to have something of the *Pest* it self: From all these *circumstances*

circumstances the cure must be varied; nor is it any disparagement for a Physician to act one thing at one time which he doth not at another; and to recede from vulgar Methods in extraordinary cases. In some cases he need not phlebotomise, if he see no violent Fever, no pernicious or dangerous symptoms: if it be either a Tertian, or double Tertian, or Synochus simplex: the danger seems less: yet is it a certain observation, that oftentimes in the Small Pox, the most hopeful beginnings are defeated by sudden and subsequent accidents: so that very many of those whose recovery hath been undoubted at first, have in the progress and conclusion of the Disease died. “ *Hoc primum sciat & consideret,*

“ *præ oculis semper habeat prudens & diligens Medicus,*
 “ *minimū fidendum non esse plurimum in variolis &*
 “ *morbillis, quantumvis salutaria signa primo accessu ap-*
 “ *pareant: nam in recessu & inclinatione facillime in*
 “ *mortem commutantur: talis est horum morborum frau-*
 “ *dulentia & conditio.* Besides this, it often happens

that a salubrious and simple Synochus turns to one that is putrid: and then the danger is, least what is intended by Nature for a depuration of the Blood, become corruptive, and ends in the death of the Patient. Also it is frequently seen that the exorbitant matter is so much, or Nature so weak as not to discharge it into the habit of the body, or there is some particular imbecility in the principal parts, that the Disease seizeth on the Lungs so violently as to exulcerate them in the progress of the Disease, or so debilitates them that the Patient languisheth in a Consumption; or else it settles in the Glandules of the Throat, and the Patient dyes of a kind of Squinancy, according to Avicenna. “ *Nam qui ex*

“ *variolis moriuntur, inquit Avicenna, plerumque ex an-*
 “ *gina suffocati pereunt, orta minium inflammatione in*
 “ *gutturē.* Sometimes the matter taketh a wrong course, so as that a Flux ensues, which sometimes becometh bloody: and this befalls the Patient either be-

Lud. Mercator
de puer. mor-
bis, l. 2. c. 22.

Diom. Amicus
tr. de vario-
lis, c. 8.

fore

fore they come out, or a little after they have appeared: or in the declination: in all which cases, 'tis a bad sign: but in the last, commonly mortal. " Si debet

Flor. Aug. de
febr. l. x. c. 8.

huiusmodi res experientie iudicio terminari, hæc fidem faciet, fluore in declinatione adveniente, etiamsi non sit exulcerationis, maiorem agrotorum partem mori.

Sometimes the matter is so acrimonious, that it corrodes the bones, as Paræus testifies upon his knowledge.

Ambr. Paræus
Chirurg. l. 9.
c. 1.

" Quinetiam animadvertere licet in plerisque huius morbi malignitate mortuis & dissectis, eum in principibus partibus inveni corruptionis impressionem, quæ hydrophis, phthiseos, ranciditatis, asthmatis, dysenteriae, ulceratis intestinis, ac tandem mortis consecutionem attulerit: prout pustula pari rabie debacchatae sunt, quæ per corporis superficiem furere cernuntur: non enim externas modo partes deturpant, pustularum & ulcerum altius sese in carnem defigentium impressionibus & cicatricibus relictis, sed & sepe movendi facultatem adiuvant, arrosis & labefactatis cubiti, carpi, genu & pedum dearticulationibus. Quinetiam multi inde videntur sensum amiserunt, ut nobilis Do. Guymeneus; alii audiendi, alii olfaciendi, oborta hyperсарcosi in meatu tum narium, tum aurium.

There being so great danger in this Malady, I wonder that Doctor Whitaker should ever look upon it as contemptible: saying, " This disease of the Small Pox was anciently and generally in the common place of Petit and Puerile diseases; and the Cure of no moment. It is true that Physicians do usually reckon it amongst the Diseases incident to Children: and they do believe that Children pass it over with less danger than more adult persons: because in them the Humors are not so acrimonious as in others: their habit of body is more lax, and gives the humors a freer course through the flesh, their skin is more perspirable, and their innate heat more vigorous than in others: It is also true, that they do hold that sometimes the Small Pox are so mild, that there

there is *little or nothing* to be done by the *Physician*: But 'tis no less true, that from the dayes of *Avicenna* and *Rhazes* unto ours, none ever *thought or writ*, that the *Cure* was absolutely of *no moment*. For *Avicenna* *Avicenna de febr. c. 6.* in his Treatise of the *Small Pox* represents unto us a great deal of *danger* in the Disease; and though he grant it is sometimes *facile*; yet he cautions the Reader sufficiently how *malignant, perillous and mortal* it is at other times. *Horatius Augenius* and others aver, *Hor. Augenius de febr. l. 9. c. 4. 6.* that this *Ebullition* is sometimes such as tends to the *depuration and perfecting of the blood*; and sometimes to its *depravation and putrefaction*: And as they compare the one to the *ebullition of Must*, by which it is improved unto good *Wine*, so they compare the other to those *effervescencies in Wine* when it *frets*, and degenerates. Neither is Doctor *Sydenham* less mistaken, when he forbids the *Physician* to make use of any *generous Medicaments*, but to leave the *whole work to Nature*, and to proceed according to that *Regimen* which he suggests; he representing the *disease as facile* in it self, and only *mortal or dangerous* by the errors of the *Nurse, or Physician*: Whereas it is evident that the *Small Pox* are at some times accompanied with *greater danger and worse Feavers*, than at other times: and all that difference which is to be seen in the *Pox*, that they are *green, or livid; flat, or high; horny, or more soft; few, or so numerous* as to over-run the whole *entrails*, as well as *skin*, and there to *run one into another, and flux*; this doth not arise alwayes from the *miscarriage of the Attendants*, but from the *malignity and quantity of the morbidick matter*; as *observation and common reason* will inform any man.

Let us therefore judge better of those *sage Practitioners*, who proposed unto themselves *sundry scopes* in the cure of *this disease*: and thought it their *prudence* to prevent all the *dangers imminent or present*, by a cure like unto *this*.

D d First,

First, They examine the *habit* of the Patients *body*, if it abound with *blood*, or *evil humours*: the *redundancy* of the former they conceive may be such, that upon a *violent ebullition* Nature may not be able to rule it, but either *some vessels* may *break*, or the Patient be *strangled* by a decumbiture of the *blood* upon the *Lungs*, or *Brain*, or a *bloody flux* ensue, if it take its course *that way*; or a *bloody urine*, if it incline to the *Kidneys*. The *renundancy* of *evil humor*; they do apprehend to carry this hazard in it, that it may pervert the whole *mass* of *blood* upon the febrile effervescence, and add such a *maliguit*y to the *morbifick* matter in its *expulsion*, that the evacuation thereof by *pustules* may not put a *period unto that Feaver*, but *continue* or *exasperate it*, to the *mortal danger* of the Patient: such *evils* they think may *easily* be prevented by a *due method* in the *beginning*; but in the *progress* of the *Disease*, they are either *remediless*, or not to be cured but with *much difficulty*. Therefore their first intention is to lessen that plenitude of *Blood*, and other *humors*, which they find in the Patient.

Secondly, They examine the Nature of the *distemper*, what the *Feaver* is, whether a *simple Synochus*, or one that is *putrid*; a *causos*, or *continued tertian*: They consider the *violent symptomes* what *faculties* they effect, or what *parts*: and according as they see occasion they apply themselves to *correct* its *maliguit*y, or to *moderate* its *feruour*; without endeavouring to extinguish the *Feaver*.

Thirdly, They consider the danger that the *Eyes*, *Throat*, *Lungs*, *Stomach*, and *Intestines* are in, should the *Small Pox* affect them: they know that if they be driven forth into the *habit of the body*, and those other parts kept *inviolat*e, there is *little of danger*

Fuerint ulcera maligna in faucibus, in aspera arteria, in oesophago, in intestinis saepe numero, quæ hominem non multo negotio de medio tollunt. Hor. Auger. de febr. l. x. c. 2.

danger: but on the contrary, if the *humors* discharge themselves on them, now all other fears vanished, yet upon the *suppuration* (which brings a *new Feaver*) horrible *symytomes* must ensue in the *Stomach*, *Bowels* and *Lungs*. And therefore they think it ought to be their care to *mitifise the humors*, and *fortifise those parts*.

Fourthly, They consider the *manner* of their *eruption*; and if they *come out kindly*, they intermeddle not: If they either come out *slowly*, and in the mean time create *Epileptick* and *convulsive fits*, or other *dangerous symptoms*, they promote their *coming out*: and according as they perceive by their *colour*, and other signs, that they are *malignant*, they apply themselves to amend those defaults: If they find Nature to *exorbitate* in their *expulsion*, and that they come out so *thick* that there is not *sufficient room* for them, but that they run one into another: If the *Feaver* continue, or *increase*, because that destroys the *due suppuration* of the *pustules*, they apply themselves to *moderate the excessiveness* of that *evacuation*, and to *correct that Feaver*, which is not to be terminated by any *new excretion* of that kind, but to be cured in a manner as other *putrid Feavers* are: and in this case all *judicious men* must allow no greater regard to the *Small Pox*, than a *symptomatical evacuation* deserves.

Fifthly, They imploy their care in *securing* such parts as are particularly indangered by *their eruption*; expedite the *maturation* of them, if it be to *slow*, and *difficult*; hinder their *regress*, and suffer not any *recrementitious particles* again to *reincorporate* with the blood, and *beget a new Feaver*, or other *dangerous symptom*: and in case any *new distemper* happen (as sometimes a *Pleurisie*, or the like may do) they provide for the *due cure* thereof.

These are the *common intendments* of all rational Physicians: these things Doctor Willis (whose short discourse of *this disease* contains in a manner all that our best Writers do suggest) doth propose to himself: and whosoever doth ponder well the *course of the disease* must assent thereunto. Let the *Motion* be *critical*; all intelligent men know, that before the *Crisis*, if we perceive any threatening danger, that Nature cannot command the *exorbitating humors*, but that the *present symptoms* are perillous, and the *future issue* uncertain: If the *Crisis* be *immoderate*, and not agreeable to our desires; If it bring no *alleviation* to the Patient, our hands are not bound up, nor are we prohibited to intermeddle even by *generous Remedies*. As little are we confined by the *Hypothesis* of Doctor Sydenham: for, if Nature be inclined to change the *state of the blood*, yet are we obliged to assist her, if she be too *weak*, and *deficient*, or *exorbitant*: and our providence hath the same liberty to exert it self, that any other principles indulge it in.

I come now to those *Means* by which Physicians principally are said to act: and those are the great Remedies, of *vomiting*, *gentle purges*, and *bleeding*; and to declare the usefulness thereof; 'tis necessary that we consider the *Small Pox* under a *twofold* notion. As the *Feaver* precedes; and as those *Pustules* do accompany it: I think those Physicians to have written most discreetly, who divide Feavers into *two sorts*: viz, *Febris solitaria*, and *Febris comitata*; these last they distinguish from *symptomatical Feavers*, in that *those* do *succeed* others and depend upon them as *their Causes*: but these others do *precede* some other distemper, or *arise* with it, and are either a *cause* or *occasion* thereof: and upon the appearance of their *companion-disease* they *cease* or *abate*: such are *Squinancies*,

cies, Peripneumonies, Pleurises, the Small Pox, &c.
 Comitatae febres continuæ sunt, quæ aliquem mor-
 bum qui ipsas vel exitavit, vel qui ab illis prodiit, comi-
 tem habent, aliaque præter ea quæ febris solitaria af-
 fert symptomata, a morbo comite prodeuntia, & cum
 febrium accidentibus complicata, febriumque naturam
 aliquando permutantia. In this distinction we are
 freed from those impertinencies which others molest us
 with, as if the concomitant disease were a crisis of the
 other: whereas indeed this concomitancy makes us
 look on them rather as a complication of maladies, than
 any such succession as is feigned; and we are thence
 obliged to consider what indications arise from this
 conjunction: for it is confessed that in these cases the
 primary disease is not terminated, nor altogether to be
 cured in the usual manner, but with a regard to its
 associate: but our care ought to spend it self so as
 that the primary Feaver may innocently and without
 prejudice to the sick introduce its Associate, and
 that conclude with an happy recovery. To do this we
 consider the nature of the primary Feaver: which is
 in the Small Pox a simple Synochus, or a Synochus pu-
 tride; and sometimes a Tertian, or double Tertian, or
 some malignant Feaver. These we are so to manage
 that they neither become exorbitant, so as to destroy
 the Patient before the Associate discovers it self, nor
 then become so depraved, violent, or malignant, as to di-
 sturb the subsequent cure: No man can in reason doubt
 but the best and most direct means to moderate the
 primary Feaver is to begin betimes; for then the di-
 stemper is less violent, and Nature least debilitated:
 What we are to do then the course of the Disease best
 teacheth us; in which the most enormous vomitings are
 so far from doing hurt, that they are beneficial to the
 sick: It is therefore manifest that a Physician, who is
 to imitate Nature, may in the beginning (as he sees oc-
 casion,

F. Platium
 prax. t. 2. p. 13.
 de febr. gene-
 ribus.

Hippocr. l. 2.
 Aphor. 29.

T. Barholinus
de augin.
Epidem. ex-
cic. 4. p. 56.

Epiphon. Fer-
dinandus cal.
medic. 73.

cation, and upon due pondering of all circumstances) administer a vomit: for, it is neither repugnant but congruous to any of those primary Feavers; nor contraindicated by the Associate: For hereby those excrementitious humours are evacuated, which would otherwise in the progress of the disease add to the distemper, producing Phrensies, Sopors, or other malignant symptoms; also part of the super-abundant turgent matter is exhausted, and the Lungs (who are frequently endangered by a Catarrh in the beginning) are disburthened: as also the eruption of the Small Pox is facilitated: Vomits being alwayes held by the Methodists amongst those Medicaments which principally relax the habit of the body. In case that there appear urgent Reasons against a Vomit: the next thing under consideration, is a Minorative purge, whereby the Stomach and Intestines being cleansed, and part of the Morbifick matter discharged from the Head, Lungs, and mass of Blood, Nature will be better able to overcome and regulate what remains. And herein the Physician is guided by Nature, which oftentimes alleviates the Patient by a slight Diarrhæa before the Small Pox do come forth: Nor is there any danger in such fluxes, as our Practitioners observe: Si Diarrhæa fuerit in principio non nocebit. And most of them allow a gentle besfitting purge in the beginning of this Disease, not doubting thereby but to make the subsequent course of it to be more benign, and safe; for the most turgent urgent bilious and accrimonious humors being carried off together with the promiscuous faculencies of the Intestines; 'tis not easie to be imagined that any dangerous malignity can reside in the pustules, or any dysentery or flux ensue in the state or declination of the Disease; at what time it is extremely perillous. I shall not enlarge upon this subject further (it not being my present intention) but refer my

my Reader, for his more particular instruction, to *Horatius Augenius, Ranchinus, Gregorius Horstius, Sennerius* and *Riverius* : and if he desire Experiments for the happy use of *Vomits*, and *Purges*, and evidencethat they do not retract the humors from the circumference to the center (Alas ! 'tis not the time of their separation or motion that way !) or impede their eruption, let him consult *Angelus Sala*, and *Forrestus*.

Angel. Sal-
ternar. Be-
zoart. c.viii.
Forrestus lib.6
obs. 49. cum
Scholio.

I come now to the practise of *Phlebotomy*, about which sundry Questions arise : As, *Whether it may be administred in the begining of the Disease ? and After the Pox come forth ? In the State ? and Declination ?* In all which times I do assert that there may happen such circumstances as may make it necessary : But in the beginning I think it may frequently be done with great convenience.

I. In the beginning of this Disease : that which urgeth is the *Feaver* and its *symptomes*, which if it be so violent that the Patient may be indangered before the *Small Pox* do come forth, or so debilitated that Nature may not be able to command them and concoct them by reason of their multitude or virulency (which the extremity of the *Feaver*, as well as habitual *cacochymy*, or the adventitious malignity may create) 'tis prudence in the beginning to prevent those perils, which in a short space will become remediless. If the body be *Plethorical* with either sort of plenitude, 'tis indubitably requisite to bleed : and our case here is like to those cases which possess the *Brewers*, or *Vintners*, who whilest they attend diligently to the depuration and fermentation of their liquors : employ a part of their thoughts upon the preservation of the *Cask*, least it break.

Greg. Horstius
de variolis &
morb.

Nor is the present plenitude only to be considered, but the future, which will happen upon the increase of the

the

the ebullition and attenuation of the blood, together with the defective transpiration, which alwayes abates proportionably to the greatness of the Feaver: and in case any peril threaten from the violence of the Feaver, there doth not appear any more ready course (in such as are *ἐμπύρι*, or in the beginning are at their height, perhaps there is no other) then to let blood; whereby the redundancy is diminished, the course of the blood diverted from circulating or stagnating in the inward vessels, the habit and texture of the body changed in order to the more facile expulsion of the Small Pox, and transpiration promoted, then which nothing contributes more to the alleviation of the first, and precaution of any subsequent Feaver, and malignant putrefaction of the Humors in the Pustules. “ Quoties
 “ cunque enim corpus ventilatur & nullo modo transpira-
 “ tio prohibetur, facile putridæ fuligines per poros ex-
 “ halantur, nec cordi communicantur, neque proin sequi-
 “ tur ulla febris: unica enim causa legitima & immedia-
 “ ta febris est, prohibita transpiratio; uti etiam illis
 “ qui a limine salutarunt Medicinam, notum est. i. e.
 Whensoever the blood is well ventilated, and insensible transpiration free, whatever noxious and venenate vapours are contained in the body, which might otherwise fly up to the head, and cause incurable Phrensies, deadly Sopors, and Epileptick fits; or create Lipothymies in the Heart, or difficulty of breathing (which is a mortal sign in this Disease) in the Lungs, or a Diarrhea and Dysentery in the Intestines, or a virulency in the suppurating Pustules, and corrode even the bones and ligaments; these vapours exhale by the opened pores, and the Feaver abates: for any one that knows never so little in Physick, understands that the sole legitimate and immediate cause of Feavers is prohibited transpiration: From what hath been said it is evident, that of all Remedies Phlebotomy is the most important in the Small Pox, in the first begin-
 ning

Joseph de Me-
 dicin apud
 Gr. Hoff.
 6. 5. p. 50.

ning, whether the *Feaver* be a *simple Synochus*, or one that is *putrid* and *malignant* : and 'tis more a wonder that any man should oppose the due administration of it, then that all Europe in a manner should agree to the practice thereof.

Neither is it only to be administred to allay the plenitude (which generall occurs in this Malady) or to prevent the evils forementioned; but frequently for rebulsion, when the malignant matter begins to affect the Brain, Stomach, Lungs, Intestines : For if during the Feaver the Humors seise upon those parts with any violence, the Patient is in apparent danger of death, there being no way to prevent the suppuration there; and little hopes that the Patient will survive the distemper, or (if he do) escape a Consumption or Dropisie afterwards. *“ Sunt alie ita malignæ, ut non solum carnosum genus adorianitur, sed ossa quoque dilanient, & corrumpant, & quandoque interna membra principalia, ut hydropem generent, & nuper observavimus puellulum quendam D. Donati Profili nepotem mortuum ex hydrope ob variolas, & morbillos : quandoque vidimus alios consumptos ex asthmate, ob eandem variolas : quandoque vidimus alios diarrhæa & dysenteria confectos ex morbillis & variolis, & alios gangrenatos & esthiomenatos.* It is true that Physicians do not alwayes regard the distempers of the brain in this disease, because albeit they may be very violent in the beginning, yet they afterwards cease of themselves : nor do they appear so highly concerned for the animal, as vital functions : and in such cases great judgment is required in a Practitioner rightly to distinguish betwixt what may affright others, and what ought to terrifie him : But in case the first approach be accompanied with a violent Cough, hoarseness, difficulty of breathing, the beginnings of Squinancy from a pustulary defluxion into the Glandules of the Throat, or with swoonings, and perfrigerations of the hand and feet; He that thinks

E c

Phlebotomy

Epiphan. Ferro
dinand. cas. 1
medic. 78.

Si est bona
vox, & bona
respiratio,
spes est in tu-
to. ex Avi-
cenna. Epiph.
Ferdinand. cas.
n. edic. 78.

Phlebotomy ought not to be administred (if other conditions permit) understands not himself, or complies too much with the prejudicate opinions of the Patient and Relations. The Authority of all Physicians almost justifies him: the Rules of Art direct him to it: the prosperous success which frequently follows thereon imbolden him to it: and Nature her self authenticates the practise by her sovereign example: for it is usual for Patients in the beginning of the Small Pox to bleed at the nose: I have known five or six in one family (adult persons) that bled of themselves eighteen or twenty ounces, with greater benefit: whilst

Epiphm. Fer-
dinand. cas.
med. c. 78.

ca. 1

Hor. Augentinus
de febr. l. x.
c. 3.

Diom. Amicus
de variolis,
c. x.

Rhazes 18:
cont. 8.

I durst not be allowed to take away eight. “ Novimus
“ plures infantes in principio quibus sanguis in copia ex-
“ naribus exiit, & bene habuerunt, neque tot tantisque
“ variolis & morbillis fuerunt afflicti unde multi autu-
“ marunt, si puero multa sanguinis copia sponte vel arte
“ exieret, usque ad animi deliquium, quoad vel non variola-
“ bitur, vel non in tanta copia: nam variola & morbilli
“ vere sunt morbi a sanguine. With this Author a-
grees the most experient Augentinus, “ Saluberrimum
“ esse provocare sanguinem ex naribus docuit experientia:
“ nam quibus sponte effluxit, variolae pauciores & salu-
“ briores evenerunt. Vidi haecenus pueros duos, qui ex
“ fluore sanguinis e nare dextra tertio die immunes a fe-
“ bre evaserunt, & quarto die supervenerunt variolae
“ paucae & benignissimae. I add the words of Diomedes
Amicus, who having recommended the applying of
Leeches, Tarrow, or Horse-tail to the Nose, thereby to
cause a flux of blood, proceeds: “ Hæc enim san-
“ guinis evacuatio a naribus, vel sponte, vel arte facta
“ adeo confert, maxime cum adsint signa fluxum sangui-
“ nis portendentia, (cum tamen non fluat) ut solo fluxu
“ ista ægotantes istos sanatos vidisse Rhazes dicat; &
“ eum solum præservare a noimento oculos & alias fa-
“ ciei partes dixerit Avicenna: quæ sanguinis evacuatio
“ ex naribus semper medicum excusat ab omni alia eva-
cuatione:

*evacuatione: sicuti facit etiam qui per uterum, vel hæ-
morrhoidas fit, modo fit cum alleviatione.* The con-
sideration of this so beneficial an effort of Nature made
Augenius and others to direct that after *Phlebotomy* in
the Arm; the Patient should be forced to bleed at
the *right Nostril* (in relation to the *Liver*) or at
both: and in the cure of *Antonio Borghese*, a Nephew of
Pope *Paulus V.* a Colledge of Physicians at *Rome* did
prescribe *Leeches* to be applyed to his *Nostrils*, and his
recovery was principally ascribed thereunto.

*Philander Co-
lutim in de.
dic. Marfil.
Cognati super
aph. 22. sect. 1.*

I shall not undertake to prescribe how much blood may
be taken away at once: nor how often *Phlebotomy* is to
be repeated in the beginning of the disease: I should
expatiate too much by such a discourse; the general
Rules are to be found in *Augenius*, *Mercatus*, *Horstius*,
Ranchinus, *Epiphanius Ferdinandus*, &c. and the accom-
modation thereof to particular cases doth depend
wholly upon the judgment of the Physician employ-
ed; How *Children* (in whom the Disease, if they
can be ordered) is less dangerous commonly: and
how *Men* according to their different habits of body,
and other circumstances (it being more perillous in
them, their flesh being more solid and tenacious, their
bodies less perspirable, and their blood and humors
more acrimonious) are to be ordered: When the *Lan-
cet*, when *Leeches*, when *Cupping glasses* and *Scarifica-
tions* are to be made use of; the wise do know, and
the ignorant may learn, if they will study to improve
by study that time which they mis-spent in censuring
the prudent actions of their betters.

Before I proceed to the second Question, it will be
convenient to decide that Controversie about *Phlebo-
tomy*, Whether it draw from the Circumference
to the Center, and may hinder the erupti-
on, or cause the *Pustules* to return in, or
subside?

subside? That there are some eminent Physicians who do hold, that Phlebotomy doth draw the Humors from the Circumference to the Center, I do grant: and in the case of the Small Pox, that it may chance to do so, is the suspicion and fear of Avicenna and Hollerius, as well as Doctor Whitaker. But why the Doctor should be scrupulous here, who hath so great a regard for the Ancients, (though he cite no good Authors) is to me a Miracle: For besides the Methodists, who are more ancient than his Citations; the repute of Galen and Aetius (whom Septalius entitles to the Opinion) ought not to have been supinely contemned: and the Authority of many of the Moderns (which a man that cites Fernelius ought not to slight) doth prove unto us that Phlebotomy doth promote transpiration, eject the peccant humors to the Circumference, and not reveal them back: and this is the Opinion of the learned

Eucl. Septal. de pest. l. 5. c. 17.
Greg. Horstius Instit. Medic. disp. 18. coron. de venæ sect. qu. 7.
Joseph de Medicis apud Gr. Horst. t. 2. p. 52. 53.
Collado obs. in Hollerii meth. c. 93.
Botallus de venæ sect. c. 5. sect. 6.

Hippocr. sect. 6 aphor. 25,

Septal. de pest. l. 5. c. 17.

Septalius, Gregorius Horstius, Joseph de Medicis, Collado, Botallus, and several others. I have said enough to decide this point in the preceding discourse about the nature and effects of Phlebotomy: Yet since it seems in this place peculiarly necessary to be again spoken unto, I thus argue thereunto. If it be true that Blood-letting doth draw the humors from the Circumference to the Center; how is it that Hippocrates, Galen and all the Dogmatists do prescribe Phlebotomy in Pleuris, and Inflammations of the Liver, and Lungs? Is this the effect of that Rebulcion, that the Humors should flow more inward? and from the surface to the center? Is it upon this sentiment that Physicians reiterate their Phlebotomies? or practise them at all in the Itch, Leprosie, or Erysipelas? Doth not Hippocrates caution us against the returning in of an Erysipelas? Yet is there no man that can rationally condemn bleeding in that Disease? How often do we read the happy effects of this usage in pestilential Diseases after the eruption of the Spots (which Septalius tried upon himself; and

and Minadons upon an infinity of Patients) and of the Parotides (of which Riverius boasteth) of the Carbuncles and Botches (the successfulness whereof converted the other Physicians to adhere unto Septalius, in opposition to the timorous Francaſtorius) and even of the Small Pox, in which Avicenna alloweth of it before their eruption, and sometimes after it? Consider the Authors, and the Cases related concerning the prosperous issue of Phlebotomy in the Small Pox, and how speedily they have come forth thereupon; and see if it be possible to frame a ground for such sentiments, as Doctor Whitaker suggests: I will not here repeat the multitude of cases recorded by the French, Italian and Spanish Physicians; nor alledge the cases out of Forreſtus: but content myself with the single instance of Heurnius. ^{10. Bpist. Minadon de abusu non mittendi sang. c. 14. Riverius prax. medic. l. 17. c. 1.}

Quin si dyspnæa adſuerit cum exanthematibus, interdum ad Phlebotomiam venimus. ^{Heurnius in lib. 2. aphor. 15.}

Ita nobiliſſimæ comitiſſæ hymondanæ Franciſcæ, Admiralii filię, venam pertundi juſſi, cum exanthematu non ſatis prodirent, idque felici ſucceſſu. Can we imagine that if the proper effect of Phlebotomy to draw in the humours, that it ſhould ſo frequently, nay univerſally, produce ſo different an operation? Or, is it not more rational to think that the proper effect thereof is to draw from the Center; and that whenever it happens otherwiſe, 'tis by accident only? Doth not Collado argue judiciously againſt the generality of that Aſſertion: viz. All Phlebotomy draweth from the Circumference to the Center; when he reasons thus?

Whatſoever doth draw back the humours from the Circumference towards the Center, is noxious in the Small Pox.

But ſome Phlebotomies are not hurtful in the Small Pox.

There=

Therefore some Phlebotomies do not retract the Humors from the Surface to the Center of the Body.

Which Conclusion is contradictory to the universality of the Proposition aforesaid.

I hope I need not inculcate to those of the contrary tenet that old Rule in Logick :

Syllogizari non est ex particulari.

Page. 140.
edit. 2.

As for Doctor Sydenham, he grants that 'tis most false for any to say that Phlebotomy (and other evacuations) hinders the eruption of the Small Pox, by introducing a contrary motion to what Nature intends by the Circumference : Since that 'tis commonly seen to happen quite otherwise, they suddenly coming out thereupon ; and therefore he suggests other Reasons, but of little validity. ' Per hasce evacuationes non tantum ebullitio nimis imminuitur, cujus interim ope partes despumandæ accurate secerni debuerunt: verum etiam illud ipsum subducitur, quod cæptæ secretioni quasi pabulum continenter suppeditaret; unde sæpenumero contingit, ut variolæ primum laudabili impetu erumpentes (eoque fortasse melius, quod evacuationes jam dictæ præcesserant) paulo post ex improvise quasi repercussæ detumescunt, idque ob eam potissimum causam, quod materia desit, quæ quasi a tergo præcurrentem insequeretur, atque agmen clauderet. These are his most important and persuasive Reasons ! so conformable to his Observations, that he makes them the Basis in a manner of his practise ! so powerful, that all that the Physicians have observed, said, and writ for above seven hundred years is not worth a straw in comparison thereof ! Such is the Treatise of his, *Quæ etiam si neque mole ampla, neque spoliis Authorum (quorum cineres per me molliter cubent) sit sufferta, tamen non erit, uti spero, eo nomine tibi minus grata, quippe qui*

Ibid. p. 141.

Ep. dedic. ad
cl. R. B.

Ep. dedic. ad
cl. R. B.

qui inter magna quid intersit & tumida non ignoras!
 I have wondered often that his Books should meet with
 any applauses: and with what confidence he could ob-
 trude upon the World so irrational and absurd a
 piece; except it were to shew how judicious in fra-
 ming of Hypothesis, and exact in their observations these
 Baconical Philosophers are. But, not to disturb
 the repose of Fr. Bacon, or Bungey (*quorum ci-
 neres per me molliter cubent*) all that he proceeds on in
 that Book about Feavers, amounts to this, that Nature
 affects a new state and disposition of the Blood; and so
 produceth a Fever. *Febrilem sanguinis commotio-
 nem sæpe (ne dicam sæpius) non alio colliceare, quam
 ut ipse sese in novum quendam statum, & diathesin
 immutet.* Well, for discourse sake, I will now allow
 him this: but I must remind him that he saith the same
 of the Small Pox: How then comes it to pass that
 the Indications are not the same, where the supposi-
 tion is the same, and the procedure of Nature the
 same, by Ebullition and Despumation? Before, he ex-
 pressed himself thus; *Ita mecum reputo, Indicatio-
 nes veras, & geminas quæ in hoc morbo consurgunt, in
 eo versari, ut sanguinis commotio intra modum naturæ
 proposito congruentem sistatur; ea nimium ratione, ut
 nec hinc plus æquo gliscat, unde periculosa symptomata
 insequi solent, nec illinc nimium torpeat, quo pacto vel
 materæ morbificæ protrusio impediretur, vel sanguinis
 novum statum effectantis labefacturentur conatus.* We
 were then allowed to intermeddle, as we saw occasion,
 and to assist Nature by Vomits, Purges, and repeated
 Phlebotomies, in case the Ebullition were so violent, as
 that it was incongruous for the affecting that change in
 the mass of blood; or on the contrary so defective, as not
 to be able to bring it about: But now, when the same
 things fall under our debate; the same Ebullition, at-
 tended with no less violence and danger (rather much
 more) and the like despumation is to be effected, how
 come

I would not
 be under-
 stood to say
 the Doctor is
 a Con-
 jurer.

De feb. con-
 tinuis. p. 5.

pag. 6.

come the *Indications* to vary, and that our hands are tyed up from prescribing *those Remedies*, which a parity of Reason doth legitimate? If it were not necessary, we were then obliged by our *Observator* not to busy our selves: but amidst the *asore said circumstances* we might interpose our aid: and why not now? No Reply can be made but this extravagant and intolerable Assertion; that, *In the Small Pox there never can happen any immoderate, or defective Ebullition naturally; but it must arise from the error of the Physician, Patient, or Attendants.* And all the proof of this that I can find amounts to no more, than that some, or many have been recovered by doing nothing in the Small Pox; when *Salubrious* that oftentimes upon Phlebotomy, and other evacuations practised in the beginning of the Small Pox, though they have come forth well (nay the better for the use thereof) yet in the progress of the disease, they have subsided, and returned in: those antecedent Remedies having either rendered the *Ebullition* too minute to finish the despiration, or having carried off part of that matter which should have brought up the rear, whereby the *forlorn-hope*, or *vant-guard* are disappointed behind. Most excellent! But may not I say on the other side, that since we oftentimes see that the *Small Pox* are preceded by a *malignant, pestilential, or putrid Fever* (no defaults in any person being to be alledged in the case) and that many (sometimes most) do not recover: that in those difficulties we are exempted from his general Rule, and cannot without betraying our Patients and our own repute, omit those Remedies, and moderate the *Ebullition*, or correct it? Is it not so apparent that none, but such as prejudice hath rendered blind, and deaf, can deny it, that Nature frequently produceth an effusion of blood at the Nose

(or

(or menstuous) in this disease, to the benefit, at least not to the detriment of the infirm? Is it not most notorious in England, that oftentimes people are vomited, purged, and blooded, in the beginning, they not suspecting the malady, and yet none of these inconveniencies do ensue? Cannot the avowed practise of Italy, France, Spain, Africk, Egypt, High and Low Germany, and of many in our Nation, convince a man that these ill consequences do neither generally nor necessarily follow upon the due administration of Phlebotomy? So that neither is the Ebullition rendered too minute (which may sometimes be almost insensible) nor doth the Van run away for want of a Rear-guard. If it be so, as 'tis undeniable, and our Book-cases make it good, I conceive the Doctors Reasons to be as weak as any were ever alledged, and that whatsoever is the cause of those subsequent evils, the artificial use of Phlebotomy cannot be the proper cause thereof: since nothing is more true, than that old Axiome, *Idem, quatenus idem, semper facit idem.* But here those effects are frequently visible, where Phlebotomy is not used; and do not ensue, as frequently, where it is judiciously used: therefore those effects are not to be ascribed simply to the bleeding of the Patient. 'Tis an imbecillity of ratiocination to erect universal theorems upon a Sexpenniero, or what oftentimes happeneth; especially if that oftentimes be counterpoised by almost as many, or more Experiments of a contrary event. Besides, who in Physick ever found out such a Rule, as Urgency, or a Cura coacta did not absolve the Practitioner from its obligation at some times? And that is the present case. We do

F f

universally

Nuper, cum 1665 vario-
lis decumberent filii filia-
que, uzi præ cæteris san-
guine florido rubenti, li-
benter nonnihil sanguinis
subtraxissem prius quam
eruptio fieret: sed incerti
eventus metu retractus
optimum consi-
lium intermisi, quod
proficuum videbam: In
mittendo enim sanguine
non tam annos Medicus
numerat, quam vires ægro-
tantis æstimat, Celso præ-
eunte. Negligentiam ta-
men meam vel metum sup-
plevit Natura optato suc-
cessu & felici variolarum
eruptione. Quippe quot-
quot ex meis decubuerunt,
plerisque delirantibus, e-
ruptionem variolarum, hæ-
morrhagia narium præces-
sit, qua sublevata Natura
promptius expulit variolas
numero plures, sed nulla
alia malignitate infestas.
Bartholin. medic. Dan. dis-
sert. 9. p. 428, 429.

Vide Valler.
meth. med.
l. 4. c. 2.

Sed maxime notandum est, exire aliquando variolas, aut morbillos, ita placide cum febre, vel sine febre, ut error sit venam secare. Commoda regio est, nullum accidens urget, neque expulsi, aut alio signo cognosci potest latitans malum. Quorsum sine ulla indicatione audet Medicus turbare crisin? Anton. Ponce San-
tacruz. de imped. magn. auxil. l. 3. c. 18.

universally grant, and *Spain* it self will joyn with Doctor Sydenham, that in the *Small Pox*, when either there is no *Feaver*, or a mild and salubrious one, and that Nature without any dangerous symptomes doth expeditely and congruously carry on the work; we ought not, or need not to Phlebotomise: But we do say, some exigencies may happen (without any intervening error) in which that practise is legitimate, because then necessary. I know not how diligent our Observator was, when he took notice of

such as miscarried upon Phlebotomy: were the Physicians besitting Artists? did the Patient, and all Attendants faithfully discharge their duty? was there no Malignity superiour oftentimes to all Medicines; no individual circumstances, such as commonly frustrate a Cure under the most judicious Methods? I must be informed of this, before I can determine, as our Author intends. Oh! what a misery is much study! and how many scruples is this Doctor Sydenham freed from, by suffering our best Writers to remain untouched, unconsulted!

But I need say no more: and therefore proceed to the second Question.

The second Question is; Whether in the AUGMENT or increase of the *Small Pox*, it be lawful to let the Patient bleed? For the better understanding hereof, I think it requisite I explain what I mean by the Beginning, Augment, State, and Declination of the *Small Pox*. I intend by the Beginning all that time which intervenes from the first illness, decumbiture, or *Feaver*, until the *Small Pox* do begin to appear: this space is uncertain; for commonly it exceeds not three, or four dayes: though I have known it to be much longer before they have appeared.

appeared. And *Zacutus Lusitanus* shall confirm it to any one that doubts the truth of my Observations. *Zacut. Lusitan. Medic. princip. hist. l. 2. qu. 2.*

“ *Variolæ in die septimo, octavo, undecimo, & duodecimo; & quod plus est, vigesimo sæpe apparere solent, quando natura præ humorum onere pressa causam mor- bificum citius expellere non potuit.* *Diomedes Amicus* saith he had a Souldier at *Millaine* under cure, who having had seven fits of an exquisite *Tertian*, in the end of the last paroxysme, the *Small Pox* came forth, and he remained perfectly freed from any *Feaver*, till their *suppuration* occasioned one, which ended in an happy recovery. 'Tis true the *Feaver* preceding the *Small Pox* may have its distinct times (which fall also under the consideration of a *Physician*) and sometimes the *Small Pox* are so gentle, that this distinction cannot take place: But 'tis not to my present purpose to entreat hereof: I have sufficiently proved that *Phlebotomy* may be administred in the beginning: and the number of those that deny that, is very inconsiderable: but in the *Augment* many are more timorous. By the *Augment* I mean all the time from their first sensible appearance until they swell up, imbody, and exchange their red colour for one more white: during which time commonly the *Feaver* ceaseth, or giveth little of trouble to the Patient: and this extends usually to the seventh, ninth, and sometimes the eleventh day: sometimes it happens that the *Pox* arise one under another, and then the *Augment* of the former becomes coincident with the state of the latter.

Diomedes Amicus de variolis, c. 6.

Horar. Augment. de febr. l. 9. c. 18.

It is not here to be debated, whether we may let blood in the *Augment* when it is gentle, and our prognostics happy: but in difficult cases: as if the *Feaver* be so far from any alleviation upon their appearance, that it increaseth, and the symptoms become more terrible: If the difficulty of breathing become greater, or continue violent: If the throat become very sore, and

be accompanied with a difficulty of swallowing: If the first deliriums persist, and there be danger of a Frenzy, or Convulsions: If the Cough be vehement: If swoonings or vomitings begin, or continue: If a looseness, or bloody flux, or bloody urine ensue: If they come out interruptedly, and disappear after they have come forth: If they come forth of a dangerous colour, or be very hard and horny (as they call it) or interspersed with purple spots: If they come out in such multitudes, that Nature seems oppressed, and incapable of disburthening her self, or ruling them in order to due maturation: If apparent danger threaten the Eyes: In these (and other cases that are perilous) it is controverted, Whether we may let blood? And I am for the Affirmative; supposing that either Phlebotomy hath not been administered; or so diminutely, that there is still occasion for it.

C. Gelf. Medic.

l. 3. c. 18.

Vallesius in

Hippocr. sect.

2. aph. 3.

Ludovic. Merc.

cat. de morb.

pueror. l. 2. c.

22.

M. I. Paschal.

meth. med.

l. 2. c. x.

H. Aug. de

febr. l. x. c. 3.

I. C. Claudin.

Empir. ration.

nal l. 5. sect. 1.

c. 1. p. 286.

Epiphan. Fer.

dinand. hist. 78.

Dilect. Luff.

ran. de venæ

sect. c. xi.

Art. 1 p. 145.

Ioseph de Me.

dicu apud

Oreg. Horst. 2.

Hoeferus l. 7.

p. 386.

Bartholin. dist.

medic. p. 101.

Multa in præcipiti periculo recte fiunt, alias omittenda: I have already alledged the Authority of Avicenna and Rhases, and Bayrus, and the practise of Heurnius upon the Countess of Egmond: I add here, that 'tis approved of by Vallisus, Mercatus, Paschalius, Fonseca, and the Physicians of Spain: by Horatius Hugenius, Cesar Claudinus, Epiphanus Ferdinandus, Dilectus Lusitanus, and the vulgar practise of Italy: By Joseph de Medicis, Hoeferus, Bartholinus, and many other Physicians in high and low Germany: and the happy practise thereof frequently in this Nation, hath given some credit thereunto. I mention not the French Physicians, because their Authority is excepted against in this disease: though no Nation (excepting Spain) hath ever produced better Practitioners, or more judicious men than they are. It being manifest then that the number of Physicians which approve the due administration of Phlebotomy in the Augment of the Disease, and after that they begin to appear, is such as may justifie any prudent Man in the doing thereof; Let us now examine with what success it hath been done.

The

The Countess of Egmonds case I have already recited: Bartholinus avows the beneficialness thereof.

“ *sunt tamen qui erumpentibus variolis venam secant, quando febris intenditur, anxietas, spirandi difficultas, angina, pleuritis, lotium crassum, & rubrum, aliaque symptomata apparent, ut detracta humorum portione, reliqua facilius superentur. Certe si imperfecte prodeant exanthemata, naturæ laboranti succurrendum, partim parca venæ apertione, si copia sanguinis oneret, quod multorum felix eventus comprobavit, partim sudoriferis, quæ, ubi malignitatis suspicio, tutius ad extrema corporis clinimant ichores.* And Dilectus Lusitanus professeth the neglect of it to be an error:

Th. Bartholin.
cist. med. pag.
601.

“ *Qua in parte aliquorum Italorum Doctorum error & timor calumniandus venit, qui dum apparere vident variolus inviolabile servant præceptum nullo modo sanguinem evacuare; & in præsentî casu exceptio facienda erit, cum multa experientia viderimus in his quibus talis evacuatio fuit repugnata, & ante suppurationem pueros suffocari, & in multa illarum quantitate etiam suppurata. Non enim potest natura tanta regere & vincere ulcuscula, & ideo suffocatur, indeque multoties pulmonia & alia superveniunt accidentia.* ’Tis needless to recite other cases: I proceed to the Reasons of the practise; which though they are easily deduced out of the foregoing Treatise, concerning the general effects and utility of Pblebotomy, yet may it not seem amiss to debate the controversie particularly in this place.

Dilect. Lusitan.
de venæ sectione cap. xi.
Art. 1. p. 146.

It is an Aphorisme of Hippocrates, that in the beginning of Diseases a Physician is to administer his principal Remedies: but in the state to supersede: *Cum morbi incipiunt, siquid videbitur movendum, move: cum vero vigent, quietem agere melius est.* And the reason of that injunction is, because that in the beginning Nature is rather oppressed by the turgent and crude hu-

Hippocr. sect. 2.
aph. 29.

mons,

Id. ibid.
aphor. 30.

Hier. Thriver.
in Hipp. l. 2.
aphor. 29.

mours, then as yet debilitated; the temperament of the body is not much vitiated, nor the mass of blood much depraved; nor the Disease highly prevalent. It being most certain, *Circa initia & fines omnia sunt levissima: circa vigores autem vehementissima.* In which Aphorismes the word beginning is so used as to include the Augment of the Disease: for he passeth immediately from the Beginning to the State of Diseases. *Id nunc manifeste ex verbis Hippocratis constat, qui principio nominato ad statum transiit, tanquam Augmentum sub principio continuerit. Clarius id cognosces, quia morbum in tria duntaxat tempora partitur.* And from hence we learn, that the most seasonable time for Phlebotomy is within the time of the Beginning of the Small Pox, yet so as it includes the Augment, and may then judiciously be practised, in case it have been omitted before, or that new emergencies urge us thereunto: for if we delay then to use it, 'twill be too late to administer it, when Nature is more spent, the Blood and Humors more corrupted and perhaps degenerated into a malignity; the disease with all its symptoms more violent. If then after the eruption of the Pustules the Feaver continue, or increase, with evil symptoms; 'tis most evident that we ought to proceed to Phlebotomy, not only to diminish the present plenitude of blood, and surcharge of peccant humors, to allay the vehemence of the present Feaver (by ventilating the blood) open obstructions, relax the texture of the body; but also to prevent future evils, which will after prove remediless. For in case the Feaver continually increase, 'tis indisputable that no proper maturation of the Pox can ensue: the violence thereof interturbeth that work, and depraving the expelled humors so as to destroy the habit of the body, instead of suppurating in the skin: and their eruption is in this case perfectly symptomatical, because they bring no alleviation with them, but add to the danger

danger so much as their *maturation* interferes with the proper cure of the *putrid* or *malignant* Feaver: If ever it be true that the *expulsion* of the *Small Pox* is a *Critical motion*, 'tis manifest that now they are to be looked on as *judicatoria non judicantia*, as efforts of Nature *intending*, but *not being able* to effect her easement; and consequently they portend either a *tedious* and *perillous* sickness, or death. *Omnes excretionis male sunt, quæ non sedant dolorem*——— *Et quæ non judicant, difficile judicium reddunt, atque quæ lædunt in acutis morbis exitium prænunciant.* And were there any danger of *retracting* the expelled matter, as there is not (because neither doth *Phlebotomy* draw from the *Circumference* to the *Center*: nor is it an easie thing to draw back *extravasated matter*) yet would not the regard thereunto deterre us from this practise; because in reference to the *maturation* of the *Pustules*, the Feaver here assumes the nature of a *Causa prohibens*, or an *obstacle* and *impediment* thereunto, which must first be removed. The case is hazardous; but 'tis now we must act with that *prudence* which obligeth us to attend unto what is most urgent; though we neglect not other considerations: Nor can any man in his *wits* doubt but that we ought to recurre unto *Phlebotomy* (even more than once) *Cupping-glasses*, and *scarifications*, except by declining an uncertain perill we will subject the Patient to one that is certain. Other remedy there is none: and what imports it, if the attempt be hazardous, since the omission is likely to be *more fatal*? we know not, nay scarce fear that we shall indammage the sick by the *remedy*; we are assured to do it, if we *forbear*: seeing that each moment adds to his jeopardy, and so far incapacitates us to serve him, as it accelerates the *state* of the *Disease*; in which when the distemper is most *violent*, we are *generally* obliged to supersede: or if we were not, yet would our care spend it self to no purpose; for in such

Prosper Alpini
de prælag.
vita & morte.
l. 1. c. ult.

Flor. Aug. de
febr. l. 9. c. 18.

such *Small Pox* there is not any *declination*, nor doth the Patient survive the State thereof. *“ Status autem [variolarum lethalium] cum omnia in deteriorationem labuntur dispositionem : exulcerantur subdita partes, pus educitur maxime fetidum, nigricans, viride ; subjectum corpus plurimum contraxit ingreditis, ita ut totum videatur igne ustulatum, virtus imbecilla, febris interdum magna : atque tunc egrotus moritur.*

Neither is this the only case in which a Physician ought to practise *Phlebotomy* ; but it may be done safely and warrantably, if that the *Small Pox* do not come out kindly ; but appear, and then retire in again, or come out so slowly, or evil coloured, as that the Patient may be in danger to perish during the progress of the malady. For in the first case, is a certain sign that Nature is not able to govern those humors in the first eruption, either because of their malignity, or surcharge : and if it be not to be done by her, when the Disease is not arrived to its height ; nor she as yet much debilitated : how can we imagine, but she must fail in the vigour of it ? It is therefore requisite that a Physician (duly considering all circumstances) do proceed to secure the infirm by a minute, and perhaps iterated blood-letting. For it is not here as in other putrid or malignant Fevers, in which we have a greater latitude of practise ; and what Nature cannot effect by one way of termination, may be accomplished by another. The concomitant *Pox* alter the course of the Fever, and suffer it to admit of no other issue, but by a due maturation of the Pustules : since therefore that *Phlebotomy* promotes the eruption, and by altering the texture of the whole body and facilitating transpiration doth diminish the morbid sick matter, hinder putrefaction, extinguish the Fever, and so alleviate Nature, that she is enabled to prosecute happily her work ; I see no reason, but that it ought to be administered : and the same considerations do sway

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me to approve of it in the latter case : for if the Pox appear malignant in their first coming forth, their continuance will prove fatal, if this Remedy be not applyed: for we have none so effectual. No *Minoratives* can be used to disburthen part of the humour; no powerful *Cordials*: for those, however they seem to yield a present benefit, do in the issue debilitate Nature, dissipate the spirits, retard the maturation, and oftentimes increase the Fever, and occasion a *Phrenitis*, or other deadly symptoms. *Vesicatories* are attended with no less jeopardy, not only for that they frequently cause bloody Urines, and exulcerate the Bladder, and procure a vexatious *tenasmus*, (which I have seen to fall out, when they were applyed in other distempers-) but because the ill-conditioned matter being attracted to them, may cause a *Gangrene*, or otherwise endanger the Patient: upon which account, I do not remember any that ever proposed them in this Disease. 'Tis true, I knew a Person of Honour, who in France was four times blooded pretty largely before their eruption, and then had Pigeons applyed to his face and other places (because they came not forth well) and so was recovered: 'Tis true that *Prosper Alpinus* doth commend *Inunctions* with Nitre and Oyl of bitter Almonds to be used once or twice in a day: but besides what *Melichius* records, the practise being novel in England, and seldome used in Europe, I believe no discreet man will adventure his credit, or the life of the sick thereupon; but rather acquiesce in the received, warrantable, happy practise of the generality of Physicians.

Prosper Alpin.
de med. meth.
l. 5. c. 9. p. 17.
de medic.
Egypt. l. 4.
c. 15.
Melichius Ex-
mament. me-
dic. dist 9 in
Scholio super
Pilula de ni-
tro.

In case that there be a great redundancy of the mass of blood in the aforesaid cases, so that Nature seems oppressed, and to be so streightned, as not to be able to free her self from the corrupted humours, who can doubt but the Physician hath more reason than

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otherwise to *phlebotomise* the sick in *this time* of the Disease? It is a *Rule* in *Physick*, That we ought to attend principally in diseases to that which is most urgent; yet so as not to neglect those other considerations which arise from the nature of the Disease. In this last case the regard unto plenitude is most urgent. For if there be so great a *Plethora*, as that there is danger least the Patient be suffocated, and the natural heat extinguished, which is the supposition of *Avicenna*, when he sayes, *Timetur super eum corruptio extremitatis*. And if *Phlebotomy* either hath been omitted, or not administered as 'twas requisite, who can imagine that Nature will be able to govern and regulate so great a *surcharge* to the benefit and recovery of the Patient, but that when the humours separate and extravasate, some part will mortifie and *sphacelate*, or the party be suffocated? It is really to be supposed that the sick person will dye within a short time, except Nature alleviate it self by a large efflux of blood at the Nose. It is here as it is in a *Synochus putrida*, (for commonly 'tis a *Synochus putrida* which accompanies the *Small Pox*) in which if either by reason of the reluctancy of the Patient, or ignorance of the Physician, *blood-letting* be omitted, the case becomes exceeding perillous, except Nature be very strong, or a great flux of blood, or plentiful sweat succeed: as *Galen* relates in the ninth Book, and fourth Chapter. 'Tis meer folly here to object, that albeit that *Phlebotomy* be omitted, yet ought we to presume well of the Patient, because the *Small Pox* do come forth: as when sweat appears in a *Synochus*: for there is a great disparity in the cases: The sweat is discharged out of the skin: the *Small Pox* are lodged in the surface of the body, and must there be *maturated*; besides that the *Small Pox* infest also all the inward parts; so that the danger is greater here, than upon the eruption of sweat: Moreover the sweat consists of a more *juble* and *Ichorous* substance, and

and finds a more facile and certain exiture; but the *Small Pox* are of a grosser substance, and come not forth with equal facility. It is also to be considered, that as a large evacuation by sweat may happily terminate a *Synochus*; so, although the Patient do abound with blood, Nature may sometimes so expel and regulate the matter, that the party may avoid the imminent perils: but he that trusts thereunto must well ponder not only how plentifully the Pox come forth, but whether it be proportionate to the exigencies of Nature (for whatever is not such, is minute) and what alleviation insues: not to mention other things. And as when sweat doth not appear in due time, due quantity, with due qualifications, the Patient doth nevertheless dye: So we daily observe it to fall out in the coming forth of the *Small Pox*. And therefore I do assent unto the directions of *Avicenna*, and *Augenius*, that in case of this urgency, Phlebotomy be judiciously made use of: and whatsoever danger may seem to be in it, 'tis prudence to submit thereunto rather than to incur a greater.

Hitherto I have treated of Phlebotomy as 'tis an evacuating and relaxing Remedy; but there is oftentimes occasion for it by way of Revulsion, when not only the Eyes are in great hazard to be spoiled, or the blood stagnates about the Heart, Lungs, and Thorax: or that the *Small Pox* very much affect the Stomach, and Entrails, or occasion a *Diarrhœa*, or *Dysentery*: For in these cases, 'tis most probable that the Patient either will not live to the state of the disease, or dye then. 'Tis a received tradition from *Avicenna* downwards, that in case the Patient in the *Small Pox* do breathe freely, and suffer no defect in his voice, there is little, or no danger; unless some accident introduce a *Dysentery*: Because that is a sign that the Throat and parts relating unto respiration are secure. But in case it appear

Diomedes Amicus de variolis, c. 8.

that the inward parts are infested by the *Pox*; and that *swoonings*, *vomitings*, *difficulty of breathing*, a *soar throat*, and great *hoarsness* trouble the Patient, 'tis most manifest that he ought to be blooded for *revulsion*; least in the *state* of the Disease, the *Pustules* coming to maturation, may by their *purulent stench* annoy, or by their *growth* and *inflammation* suffocate Nature, or exulcerate and apostemate the Lungs. It is usually seen that people dye of the *Small Pox* in the *State* of the Disease (on the *sixteenth*, *seventeenth*, nay *twentieth day*) though they have seemed plentifully and kindly to come out: and the reason is (I abstract from all errors) because a due regard hath not been had to those that infested the *inward parts*: for they have exulcerated the *Intestines* and created *Fluxes*; they have occasioned in their *maturation* a new and perillous *Feaver*, a *Squinancy*, a *Pleurisy*, and particularly by affecting the membranes of the *Stomach*, they have created *Vomitings* and *Lipothymies*, &c. And this will seem credible to any that by considering what happens in the surface of the body, apprehend what must ensue upon their maturation *within*; and those *Ignorants* who have admired at these events in the *state*, and *declination*, will cease to wonder, when they assume these thoughts of *Physicians*, and weigh attentively the *Augment*, *State* and *Declination* of the *Pustules*.

To conclude this discourse; who hath not seen in the *Augment* of the *Small Pox* large eruptions of blood at the *Nose*, as also *menstruous* *Fluxes* ordinately and inordinately to intervene, *without any peril*; sometimes to the great benefit of the sick? About fourteen years ago I accompanied an eminent Physician to a Patient of his, in whom the *Small Pox* were come out well coloured, and plentifully, yet did the *Feaver* continue, together with a deliriousness, want of sleep, and
rest-

refleßneß: to all which a great *Hemorrhagy* at the Nose (of above fourteen ounces) did put a period: and of the latter case, I had (amongst many others) an happy Instance lately at *Warwick*.

Instances of the happy success of *Phlebotomy* in the Augment of the *Small Pox*, after they were come forth.

¶ 7. The illustrious Lord of *Poyrin*, a strong young man, was seised with a violent putrid Feaver; on the third day he was taken with a *looseness*, which resembled what Physicians call a *Diarrhæa*: on the day following the *Feaver* and *Flux* continued with the same violence, and a multitude of red spots appeared all over his body, with a little protuberancy: on the fifth day, all symptomes persisted in the same violence, or rather encreased, whereupon I being present caused him to bleed eighteen ounces; after which operation all those perillous symptomes did so abate, that within two dayes there was not any thereof remained.

*Botanica de
venæ sectio.
ne, c. 5.*

¶ 8. On the same day that the aforesaid Lord was let blood, and in the same house, there was a Servant of Mr. *Barrussa*, who was sick of the same distemper; but he had no *Flux*: he had been sick four dayes, and two dayes were passed since the *Small Pox* appeared: He was of the Age of eighteen years. I took from him a pound of blood; whereupon all his distemper left him, and he went about his business, attending on his Master, on the day following, which was the fifth day of his sickness.

¶ 9. Such *Phlebotomy* did also recover Mr. *Clermont* from a *Feaver*, and the *Small Pox*: as also ———
Villard, one of the Queens Pages; and another Page
of

of the Duke of Alencon's, and many others were cured by me in that manner. Also that learned Physician *Pietreus* told me, that he practised this course with good success upon his own Son.

I came now to the third Question: Whether in the State of the Small Pox Phlebotomy may be administered? I call that the *state* of the Small Pox, when they are come to their full bigness, and become white, and replenished with suppurated matter: or, in case they are malignant or deadly Pox, I call that the *State*, when the Pustules (being green, blewish, or black) are exulcerated, the subject parts corroded, and a stinking, black or greenish purulency issues. And here I avow that a Physician may sometimes according to the Rules of Art, and with great judgment administer Phlebotomy. 'Tis most true, that I cannot (to my knowledge) defend this practise by the Authority of any one Writer in Physick, except it be *J. Frommannus*, who finds some cases in which he justifieth it in the *State* of the Measles. 'Tis also true, that the common Precept amongst us is, not to disturb Nature in the *State*, when she is busied most about Concoction; but rather to supersede from the great Remedies. But I have learned from our Masters, that there is scarce any Rule in our Art, the Obligation whereof is not suspended by urgency, and that they conclude us in the ordinary, not enforced procedures: "Necessity is absolved from all Laws; and Wisdome it self prescribes that we should not alwayes take its counsels: 'tis certain she meddles not with the regulation of extremities, nor with the conduct of Despair: she in some encounters dispenseth us from those things, which in others she ordered us. Without offending her, we may cross the fields when there is danger on the right and left, and try whether an excess will not cure us, when other remedies have ill operated; and cast our selves into

I. C. Frommannus de
venæ sect. in
declin. mor.
bill. sect. 104.
Hippocr. Aph.
29. sect. 2.

into the armes of an enemy, when she is no longer able to defend us. I am told by *Vallesius*, that although *Diocles*, and *Celsus*, and some others have prohibited *Phlebotomy* after the fourth day: and though *Avicenna* professes that *venæ-section* being once pretermitted ought not to be resumed: yet both these tenets are erroneous: for though *Phlebotomy* be most convenient in the beginning of the Disease, yet ought it not to be excluded in the other times, when occasion requires it. There are few Diseases whose beginning extends not it self beyond the fourth day: and even in the declination oftentimes we may beneficially let blood, for the attemperation of the inward parts, to ventilate the body, and allay its inward fervour: How much more then in the Augment, and State? Besides, *Galen* himself laughs at those who confine the use of *Phlebotomy* within a certain number of dayes.

Valles. meth. med. l. 4. c. 2.

Quocunque etenim die mittendi sanguinis scopos in ægotante inveneris, in eo præsidium hoc adhibeto, etiamsi vigesimus ab initio morbi dies fuerit. Quinam vero fuerunt hi scopi. Magnus morbus, virium robur, excepta ætate puerili, & ambiente nos aere admodum calido. In another place he sayes, There is not any time of a disease in which you may not bleed; but the sooner it is done, the better. Another sayes, Ubi magnitudo morbi postulet, & vires permittunt, non solum octavo die, ut Hippocrates Anaxioni, sed & decimo, ac vigesimo, felici successu venam secamus. This point is excellently prosecuted and illustrated by *Fotallus*, to whom I referre our Experimentators for to be satisfied. And I must avow that in other diseases I have never scrupled at this caution, as others, but practised it with success in the State, and sometimes Declination. And why we may not do it in this Disease? is the present Question. It is certain that in the Small Pox, at this time, there happeneth sometimes a Strangulatory distemperr

Galen. de sang. missione c. 20.

Galen. meth. l. 9. c. 5.

Hier. Rubem. in C. Cels. l. 2. c. 10. p. 94.

Ballus de venæ sect. c. 22.
Concerning bleeding in the Augment, State and Declination of a putrid Fever, see: *Caspar Bravo Resolut. Medic. p. 4. disp. 1. sect. 7. resolut. 8, 9, 10.*

Botallus c. 5.
Prosper Al.
rui de med.
Ægypt, l. 2.
c. 7.

distemper or *Squinancy*, sometimes a *Pleurisie*; sometimes a *Diarrhæa* or *Dysentery*: sometimes an immoderate Flux of the *Menstrua*: In all these cases 'twere great indiscretion, if not ignorance, to omit *Phlebotomy*: If any of them can be disputed, 'tis that of a *Diarrhæa* and *Dysentery*: and yet that is so vindicated by *Botallus*, and *Prosper Alpinus*, (not to mention others) and attested unto by a successful Experience, that 'tis no longer a Controversie. I have already shewed that *Phlebotomy* doth not draw back the expelled matter: but promoteth *transpiration*, which is impeded by the maturation of the *Pox*, during the State: it *ventilateth* the blood, hindereth further *putrefaction*, and diminisheth that *plenitude*, which, whatever it be, is too much for *debilitated Nature* to govern: it revelleth the *impacted humours*, or such as are *flowing* to any *determinate part*: so that not only in the *aforesaid cases*; but if a new *Feaver* arise then, or any danger threaten the Patient in the *declination* (both which cases often occur) I do not see why it may not (or ought not) to be done, whatever the peril be that may happen thereupon. Few there are but have so much *strength*, as to bear a *small evacuation* by *blood-letting*: and he is unacquainted with his *profession*, who hath not seen *prodigious effects* arise from a *minute Phlebotomy*. Our Writers do sufficiently explain the *signs* by which we are to be assured, *Whether the Patient can bear Phlebotomy*; and in *what quantity*: which *conjectures* if they be not *duly pondered*, 'tis the default of the *Physician*, not of the *practise*, when any *sinister event* doth ensue. And therefore I can only recommend to the World *this caution*, that they make use not of such *Practitioners* as *talk most*, and pretend to *new Reasons, Methods, and Medicaments*; but of those who best understand the *old Diagnostics, Prognostics, Methods and Medicaments*, in order to a cure: and have from more than one or two

Books

Books informed themselves of the *history of Physick*, as it relates to *particular cases*, and by a diligent attendance on their practise observed the truth of *what they have read*, and learned to accommodate their *Rules* to each *individual*. Could a man ocularly demonstrate all the *curiosities* of *Malpighius* by the best *Microscopes*, or manifest the *Ductus rorifer* of *De Bils* unto any Spectator: nay, what if he could make the *volatile Salt* of *Tartar*, or the *Helmontian tincture* of *Amber*, or even the *Philosopher's stone*, what is this to practise? How much less are *they qualified*, who can alledge nothing for *themselves* then that they are enrolled in the *Society of the Rosicrucians*; that so many men extol them, who are obliged to magnifie (*justly or undeservedly*) all of *their number*; and that they are good *Wits*, *ingenious Drolls*, Masters of some *Mathematical* and *Mechanical knowledge*? As to the point of *Concoction*, that tis not to be hindered; In the *Small Pox*, if they be *salubrious*, this consideration is overswayed by present *Urgency*; and if it were not, yet would that repugne only to a *profuse evacuation*; and *contra-indicate* no more, then doth the regard unto the *strength of the Patient*: a *minute and partite Phlebotomy* doth not impede any *concoction*; as our *book cases*, and *daily practise* sheweth: And in case the *Small Pox* be *perillous* or *deadly*, 'tis most certain that there is either *no concoction* at all, or so *imperfect* a one, that it doth not at all oblige the *Physician* to supersede, but rather to proceed *hereunto*, except he be timorous and unwilling to *disparage so generous a Remedy*, or the *Patient* and *Attendants* be averse from it. Neither of which regards are so authentick as to derogate from the attempts of those who *will not abandon their Patients* to the *uncertain prognostics* of *acute diseases*: however *they* may in *some sort* excuse those that take a contrary course.

The last Question is, Whether in the declination of the Disease a Physician may practise Phlebotomy? I call that the *Declination of the Small Pox*, when the matter in the *pustules* is condensed into Scabs, and they dry up, and the *Epidemis* with them doth pill off, leaving *impressions* or *marks* in the Skin. This *Question* doth not relate unto the mortal Pox, for they have no declination; but to such as are *salubrious*, and though they may have been accompanied with *dangerous symptoms*, yet are now in an *hopeful way of recovery*. Or if we must allow a *Declination* in the *pernicious malignant Small Pox*, it can be only one that is *uncertain* and *fallacious*; for when any Patient feels an *unexpected alleviation*, and such is grounded upon *no reason*, there is no trust to be placed therein. *“ Is quæ non secundum rationem sublevant, non oportet fidere: neque terreri multum, ob mala quæ præter rationem sunt: pleraque enim horum sunt infirma, neque diu manere atque durare consueverunt: In this time, I say, there may happen such cases as require Phlebotomy, and in which it ought to be practised. ’Tis observed that a Flux in the declination of the Small Pox is generally mortal, although it be not accompanied with a Dysentery or exulceration of the Guts. It is no critical evacuation, because such happen not at that time: and because it befalleth the Patient in the most unseasonable time of the Disease, when Nature is most debilitated with the precedent Disease, and ought rather to testifie signs of strength, then of further imbecillity: it enforceth us to employ all those cares which a symptomatical evacuation doth call for: and in this case, since purging is dangerous, and astringents full of hezard, there seems no way so safe as Phlebotomy duly administred. It may also happen that the Patient fall into a Pleurisie: Thus in the case of Frommannus, in the declination of the Measles, the Gentlewoman fell into a Pleurisie, which he indeavored to cure by*

Hor. Aug. de
febr. l. 9. c. 8.
Caspar Bravo
resolut. med.
part. 2. disp 3.
resol. vii.

Hippocr. aph.
27. sect. 2.

Hor. Aug. de
febr. l. 9. c. 8.

by *Phlebotomy*, and was defended in the *practise* by the best *Physicians* in *Germany*.

The Reasons which have been urged already in the other times will many of them justify the Practitioner in this : and nothing is more certain in *Physick*, than that the use of *Phlebotomy* is not indicated by the time of the Disease, or contraindicated by any number of dayes, but by other motives : and that whensoever it is necessary upon any urgency, nothing but want of strength doth repugne thereunto.

It may perhaps be demanded, Whether upon the declination of the *Small Pox*, if there be any danger of an *Asthma* or *Consumption* to be contracted, it be safe to let blood, or in order to better convalescency ?

I profess it may safely and prudently be done for *Revulsion*, before the humours be more radicated and settled there, and the Disease become incurable : for this is an infallible sign that the Disease is not well terminated : and then those Rules which oblige us not to intermeddle with any perfect Crisis, or indication, are infirm, conclude us not. Oftentimes we see *Rheumatismes*, and *Botches* to ensue, and they shew that all the morbidick matter is not ejected : Besides, in order to a better convalescence, if *Phlebotomy* have been omitted in the beginning, and that the recovery is likely to be slow, I think (and 'tis said to be the judgment of *Avicenna*) that it may be done : and I have seen it practised with a much more happy success than ever I saw *Purge* given in that time : But in this last case I referre it to every mans judgment to act as he please ; and request only that they would not condemn others of a different practise from what they follow.

After all this discourse of bleeding in the *Small Pox*, I must conclude with this intimation, that in sundry cases, and some habits of body, 'tis possible that *Phlebo-*

Prosper Alpi-
nus de medic
Egypt. l. 3.

tomy may be supplied by *Cupping-glasses* and *Scarification*: and I profess, that were the *Scarification* of the *Egyptians* (mentioned by *Prosper Alpinus*, and frequently used amongst the *Ancients*) admitted into our practice, I should frequently prefer them before any *Phlebotomy*: Being in *Jamaica* I observed that the *Spanish* Negroes there did much use them: and during my sickness of the *Colick* bilious, I had the curiosity to have them tryed upon me in the beginning. I observed that they were as indolent as *Prosper Alpinus* and *Mannus* do relate them to be: but no blood almost ensued thereupon: whence they presaged to me a long and violent sickness; saying, that all the water of my blood was translated out of the *veins* into my bowels: yet I have seen them to extract one from another a pound, or more, as they pleased.

But I find my self wearied with the prosecution of this Letter; and the sickness of the season permits me not leisure to carry on the debate unto the *Scur-*

vey; But whosoever examines attentively that disease, will be easily satisfied that it may be beneficial, and oftentimes absolutely necessary to the cure thereof. In those Countries where it is most frequent, and where the Climate bears a great correspondence with ours, this is the practice: as you may see in *Forrestus*: I add the Authority of *Claudinus*: *Joel*, (who prescribes the repeating of *Phlebotomy* at least three times) *Rembertus Dodonæus*: *Severinus Eugalenus*: *Balthasar Brunerus*: *Henricus Bruceus*: *Baldassar Timæus*, (who also reiterates bleeding several times) *Platerus*: *Sennertus*: *Baldwinus Ronssens*: *Jo. Wierus*: *Salomon Albertus*: *Matth. Martinus*: *Gregor Horstius*: *Valentinus Andreas Mol-*

lenbroccius:

Forrestus l. 20. obs. xi. xii,
Claudinus *Emperic. ration.*
l. 3. sect. 3. tract. 4. c. 5.
Joel pract. l. 2. sect. 5 §. 4.
R. Dodonæus obs. med c. 33.
Eugalen. de scorbuto, p 150.
151.
B. Brunerus (sub finem *Eugalenii*) & *H. Bruceus* ibid.
Baldassar Timæus cas. medic.
l. 3. cas. 39.
Platerus prax. t. 3. p 431.
Sennertus de scorbuto, c. 7.
B. Ronssens de scorb. c. 8.
Wierus in curat. scorbuti.
S. Alberti de scorb. § 240, &c.
M. Martinus, sect. 145. &c.
Gregor. Horstius de scorbuto
exercit. 2. sect. xi.
Mollenbroccius de varis c. 8.
& 13.

lenbroccius: and the Colledge of Physicians at Copenhagen (in their advice for the *Scurvey*, published by *Bartholinus*) I might add others to this Catalogue, but that 'twere needless. 'Tis true, that in the *Scurvey* many do not bear well large Phlebotomy; but that is not the Question: 'tis enough that they *minute venesection*, and that reiterated, doth agree well with them, and is oftentimes so necessary to the cure, that the omission thereof doth frustrate the most efficacious Medicaments. The Disease generally ariseth from an *obstipation of the Pores*, and such an alteration in the texture of the body as the *Methodists* would bring under *Adstriction*: and therefore it seldome occurreth in hot Countries, except the wind suddenly change into a cold quarter: and a multitude of Cures are recorded wherein Phlebotomy hath been the leading Remedy. The sick do frequently bleed at the Nose, and Em-rods, &c. and since in distempers of the Spleen I find Phlebotomy commended, 'tis not to be denied in this case, without some special *contra-indicant*, which I am not yet acquainted with.

I think I have in the precedent discourse enervated all that *M. N.* hath maliciously and ignorantly suggested against Phlebotomy: neither do I know one passage in him that can raise any scruple in the breast of a judicious person: but I must particularly caution him not to give too much credit to the dotages of *Thouerus*, a man of little note in his own Countrey; nor to go about to delude the World with Fables, as if the Northern Climates did not suit well with Phlebotomy: whereas it is notorious that no Nations do bleed more largely, nor more frequently than they: I will not insist on what they do in their natural or artificial Bathes, with Cupping-glasses and Scarifications, whereby they extract many ounces frequently every year; they apply ing ten, or fifteen Cupping-glasses, with Scarifications; which sometimes they repeat twice in one hour.

*Bartholin. cist.
medic. p. 506.*

*Th. Thon.
lib. 1.
p. 3.*

As

Asto Phlebotomy, in Denmark nothing is more common than whensoever the Almanack recommends bleeding, for every man almost to step into the Barbershop, and having bled, to go about his business: which custom though Bartholinus condemn, yet doth it evince the general use thereof in time of health: and who can doubt but that they who bear it so well, whilest free from any Disease but a tincture of the Scurvey: might endure it in sickness? did not a puerile fear in the Patient, or ignorance in the Physician, hinder them.

Th. Bartholin.
medic. Dan.
dissert. 9.
p. 431, 432.

Adultiores alii in venarum apertione nimis sunt profusi vel audaces, quippe visa fascia rubente ante aedus Chirurgorum appensa, ex Calendariorum signis dependentium, statim sine alia corporum preparatione in sella officinae confidentes brachium sine delectu pertundendum offerunt; & peracta operatione vel itineri se committant, aliisque negotiis conficiendis, vel vini modicum ebibunt: cumulati errores acri censura digni sunt: sed verba perdere nolo, quia Aethiopem me lavare scio. Nonendum tamen duxi, scorbutica nostra corpora maxima indigere preparatione antequam generoso isti remedio subjiciantur. If letting of blood were so pernicious in the Scurvey, 'twere impossible in so general a practise but the inconvenience would be discovered: and the people reclaimed from that inveterate vulgar custom of Switzerland; is, he that blameth it, doth thus describe.

Wepferus de
apoplexia hiflor. 3. p. 12.

Solent nostrates, Ruricolae in primis, ter quaterve in anno venesectiones usurpare, & quolibet vice duas, quandoque tres, non raro quatuor venas pertundendas curant; emittunt saepe binas sanguinis libras: Nulla cura est vel temperamenti, vel sexus, vel aetatis: Videntur quandoque gravidae, quibus terve gestationis tempore sanguinem vena secta effundunt, nec etiam partui vicina a venesectione sibi temperant, persuasae salubrius puerperium agi. Vidi senes octuagenarios hoc remedii genus expertos: nec sanguine fuso admodum solliciti sunt, qua ratione inanitate venae

‘ *vena prestantiore sanguine replenda sint, frequenter
 ‘ enim statim ac secta vena est, & cibo & potu nimio
 ‘ corpus inferciunt.* I have not read of the like pra-
 ctises in France, Spain, or Italy: Nay, ’tis in Germany,
 that for healths sake very old men bleed largely twice
 each year: instance whereof are given by Faber in his
 Notes upon the Mexican Herbal.

‘ *Reverenda ca-
 ‘ nitie, & septuaginta annorum decursu venerabili præ-
 ‘ suli Jenensi Johanni Majori plethorico salutaris erat
 ‘ sanguinis per venam sectam missio. Neque ingraves
 ‘ cente ætate ab ea erat alienus. Attingebat annum 89.
 ‘ senili confectus marasmo.* Out of which ’tis evident,

that whatsoever the German practise be in Diseases,
 ’tis not their Reason, but superstition and imaginary
 fear that makes them to decline to bleed therein:
 Nor do I find the relations of M. N. to be consonant
 to the usage of the German Physicians, except you will
 judge of them by the adherents of Helmont and Pa-
 racelsus. I might except against Thonerus, that in his
 Appendix he professeth that he doth not absolutely
 reject Phlebotomy even in malignant Feavers: and as
 good, if not a better Physician than he doth give this
 account, in opposition to him: ‘ *Experientia testa-*

‘ *tur quod non solum in Febribus his, sed & in va-*
 ‘ *riolis & morbillis, venæsectio in initio adhibita*
 ‘ *cor humoribus non repleat, sed roboret, ut expelle-*
 ‘ *re possit sufficienter variolas, Morbillos & Pe-*
 techius.

Rolsinc. me-
 thod. medic.
 special. l. 4.
 sect. 2. cap. 5.

Io. Dan. Horstii.
 in obs. & epit.
 ep. x. p. 54.

But I find my self to exceed the bounds of a Let-
 ter; but I hope you will pardon the length of it,
 since it was an effect of my compliance with your
 desires: and if I have not fully answered them, nor
 polished my Discourses as they might otherwise have
 been, be pleased to consider the shortness of the time
 allotted unto me, the great distraction with which I
 write,

(244)

write, and the *multiplicity of controversies* I have in-
treated on, and the *multitude of books* which I found
my self obliged to *consult*, and *transcribe passages* out
of; and then I doubt not but I shall obtain your par-
don, whereunto that I may have the more colourable
title, I avow my self to be

Warwick April 3
1671

Your most humble and

devoted Servant

Henry Stubbe.

Passages

Passages to be added.

WHere I speak concerning *Pests*, that though agree in the same *Generical Nature* for the *most part*, yet do they *seldome* or *never* appear to be of the same *species*, so as to be cured by the same *Method* and *Medicaments*: because I find some so ignorant as to scruple thereat, I add here the testimony of *Felix Platerus* the renowned *Physician* of *Basil*, who lived amidst *seven Plagues*.

Felix Platerus prax. t. 2. p. 69. de febr. causis.

“*Venenum pestilens ejusdem naturæ minime esse, sed
diversæ, effectus illius tantopere differentes, qui corporis
affecti constitutionis solius causa, non sic variare possent,
ostendunt. Cum aliqua regeret pestis, quæ sine discrimi-
mine in omnes vel plerosque sæviat: alia vero paucos
tantum invadat: alia quæ quotquot tetigerit, interfici-
at, magnamque stragem edat: alia, quæ correptorum
multi sanantur: verum quidnam in veneno latens illi-
us varietatis causa sit; atque unde profisciscatur, uti &
in cæteris venenis, describi minime potest.*”

The same is averred by *Joseph de Medicis* a *Candiot*, who had seen many *Plagues* in *Greece* and *Turky*, in *Ægypt* and *Palestine*, in *Tartary*, *Valachia*, *Transylvania*, *Russia*, *Poland*, *Lithuania*, *Prussia*, *Denmark*, *Saxony*, *Holland*, *Germany*, *Bohemia*, &c. and never declined to visit the sick.

Joseph de Medicis Cretenſis inter opera Gregorii
Horſtii t. 2. l. 1. de febris, pag. 46.

“ Secundum, Aſſero unamquamque peſtem vel mor-
bum peſtilentem, propriam habere naturam & peculiaria
“ accidentia concomitantia vel inſeparabilia, neque ejus-
dem ſpeciei eſſe omnes peſtilentes morbos, ut etiam plures
“ & diverſe ſunt ſpecies venenorum.

“ Tertium, Ut unumquodque venenorum, vel aſſumptum
“ vel injectum, vel admotum propria ſequuntur accidentia
“ (ſymptomata ſupervenientia Medici appellant) &
“ proinde peculiaria requirit antidota & alexipharmaca;
“ ita unamquamque peſtem habere propria ſymptomata, &
“ proinde indigere propriis præſidiis: quod Axioma non
“ advertentes vulgares & triobolares Medici, eandem her-
“ bam v. gr. Tormentillam vel Scorzoneram, quam quon-
“ dam aliquis in bello Trojano longe alia peſte affectus cum
“ utilitate adhibuerat, tanquam Catholicum Alexiphar-
“ macum, ac ſi eſſet Theriaca, in omni cujuſcunque generis,
“ regionis, & ſæculi peſte, indiscriminatim, omni ætati,
“ & ſexui approbant, exhibent & cum magno vitæ discrimi-
“ mine ſurſum.

The ſame Author in that moſt excellent diſcourſe
of his, (which contains the reſult of thoſe thoughts
which forty years practice had created in him) aſſerts
Phlebotomy in the Plague, Spotted Feaver, and Small Pox :
and concludes his diſcourſe with this Relation,

Ibid. pag. 57.

“ Unicam Hiſtoriolum placet hic aſſerre, quod mihi
“ ipſi evenit & præcipue breviter narrare. Anno
“ 1629. Amſtelodami (ubi aliquot annos publica ſti-
“ pendiū vitam tranſigi) peſtis graſſabatur, primo quidem
“ ſolos in pauperes & egenos lacte & caſeo viſitantes, ſed
“ poſtea

postea Autumni tempore enormiter ferociebat, & ple-
 bem & patritios indifferenter invadebat sævissimeque
 depopulabatur, adeo ut singulis diebus trecenti vel qua-
 dringenti deficerent: Nemo mihi nec aliis phlebotomi-
 am consulentibus annuebat (erant vero tunc temporis ibi
 magni nominis Medici ex natione Lusitana, præsertim
 Zacutus vir eruditione insignissimus, & multa experien-
 tia clarus) sic misere multa hominum millia peribant:
 sunt enim Belgæ omnes natura diuoriosa, i. e. sanguinem
 mittendi timidi tanto magis tempore pestis, in quo ipsi
 suæ gentis Medici phlebotomiam detestabantur; ali-
 quibus sanguis e naribus ubertim fluens plurimum con-
 ferebat, ut etiam bubones erumpentes in emunctoriis co-
 piofam saniem eructantes, absque periculo infirmos esse,
 declarabant. Plurimis in gutture fiebant inflammatio-
 nes, quibus neque venarum sectio sub lingua, neque gar-
 garizationes vel cataplasmata ullum emolumentum affe-
 rebant, ante enim maturationem strangulabantur. Ego
 vero cum eadem lue me graviter oppressum & improba
 angina fere enecatam viderem, quod mihi fuit vere no-
 vum & inopinabile, cum nunquam peste fuerim infe-
 ctus, etsi audenter eadem lue infectos semper visitaverim,
 sed incolumen me conservaverim, tertio vel quarto die
 (tentaveram prius multa media & præsidia an possem a
 tanto malo liberari) jussi venam medianam dextri cu-
 biti mihi secari, & sanguinis sesquilibram mitti, a
 qua cum nihil detrimenti, vel virium languorem perce-
 pisset, (quamvis neque etiam morbi remissionem) se-
 quenti die tantundem ex altero brachio exhauriri impe-
 ritavi: quæ solo præsidio, dei non abneunte, totam vi-
 rulentiam e corpore emisi, & breviter me a tetrica peste
 expediri, atque hostem jugulum petentem, plumbeo
 (ut dicunt) gladio jugulaui: quod salutare Medica-
 mentum plurimi postea adhibentes atque mea vestigia
 sequentes, scilicet sanguinis missionem celebrantes, ve-
 re e mortis faucibus erepti & vindicati sunt.

In the account of the Small Pox I omitted the opinion of *Franciscus Oswaldus Grembs*, a German Physician of good note, and great admirer of *Van Helmont*, who yet allows of *bleeding*, in some cases, in the Small Pox. His words are these.

Fr. Oswaldus Grembs: Arbor hominis integra & ruïnosa, l. 2. c. 3. de febr. malign.

“ The danger of the Small Pox doth consist in two cases: First, if Nature move the hot and vitious humors, and is not able through *debility*, or their *tension*, or the *dense habit* of the body, to expel them: and then the Disease becomes deadly, the humours recurring upon the Heart and Vitals: Secondly, if Nature do protrude them forth, and is not afterwards able to regulate them by reason of their *multitude*, or *malignity*, but that the Feaver becomes more *malignant* then at first, and either dispatcheth the sick, or destroyes some particular parts with a most fatid corruption therof. There are *four Indications* for the cure of the Small Pox: The first is to evacuate what is redundant: The second is to prosecute the emotions of Nature: The third is to restrain the venateness of the Disease: The fourth is to secure some particular parts. And because the Feaver which goes along with the Small Pox is a *Synochus*, it requires *Phlebotomy*; here is no room for *purging*. In Children *Scarification* in the Armes, calf of the Leg, and Nostrils, or *Horse-leeches* applyed to the Back, Breech, or Thighs, may be used instead of *venesection*, when the Small Pox do not come forth. If the Pox do come forth kindly in the beginning, none of these things are to be practised. In grown people a *minute Phlebotomy* is to be practised after the first or second day only, when the Humours are protruded, 'tis dangerous (for it draws in the Humours)

except

except some new accident, as a *Pleurisie*, does render it necessary. When they are coming forth Nature is to be aided with *Frictions*, and Alexipharmacal Cordials, as *Bezoar*, *Unicorni-horn*, *Electuarium de Gemmis*, &c. —

A noble Lady of the age of fourteen years fell sick, and bled at the Nose, she had a nauseousness at Stomach, and great pains in her back: the Physicians being sent for, a Clyster was proposed of Broth with Cassia, it came away without any operation: her pains and Feaver increased, and certain spots appeared behind her Ears, which portended the *Small Pox*: one of the Physicians commended *Blood letting*, as the most suitable remedy for a great disease, and not inconsistent with her years and strength, especially since she was plethorical; hereby, he said, the blood being diminished, the vessels would be less distended, the malignity repressed, and pains mitigated: But so it happens frequently, that we cannot embrace the most obvious counsils, whether it be an imbecillity in our minds, which being distracted betwixt hope and fear, and solicitous about the future, forgets the present urgency: or whether it be the method of Providence, which to effect its designs transports us besides our selves: The rest of the Physicians seemed astonished at the proposal, and neither assenting, nor dissenting, proceeded only to insinuate the peril of that operation: But, that they might seem to do something, they proposed an anodyne Fomentation to mitigate her pains, which having continued ten hours, produced no benefit: The ensuing night she was very restless, and on the morning her strength began to be sensibly impaired: thereat the Physicians were much troubled, and considering the present exigency, they gave her a Cordial of *Bezoar* and the *species de Hyacintho*: it was not given sooner, because there was amongst the number one who

was

' was extreemly averſe from giving any Cordials in the
 ' *Small Pox*, to bring them forth, as it thereby the hu-
 ' mours were exaſperated, the ebullition rendered too
 ' violent, and the Puſtules protruded in ſo great an
 ' exceſs as to ſtrangle the Patient, he ſaid that Nature
 ' underſtood her own work, and could do it beſt, that
 ' ſhe was to be left to her ſelf, and needed no incen-
 ' tives: And by theſe ſuggeſtions he intrigu'd the
 ' determinations of the Phyſicians, ſo as that no *Cord-*
 ' *dial* or *Alexipharmacon* was given ſooner. The Pa-
 ' tient having taken ſome of the aforeſaid *Cordial*, and
 ' afterwards avoided a *great deal of blood* by Urine:
 ' which yet ſome ſuſpected to be a *Menſtruous* excre-
 ' tion: a little after ſhe vomited up a *great deal of*
 ' *blood*: this ſame took to be a *Critical* effort of Na-
 ' ture, which had alleviated the violent ebullition of
 ' the blood in the greater veſſels by diſcharging a part
 ' thereof at the Mouth and ordinary paſſages: in the
 ' mean ſpace, the *malignity* of the Diſeaſe prevailed
 ' above the ſtrength of Nature, the *whole maſs of blood*
 ' being vitiated, and 'twas a miſerable ſight to behold
 ' the poor Lady as it were *drowned in her own blood*, and
 ' thus deſtroyed: all her back was full of large *livid*
 ' *ſetlings of blood*, as if ſhe had been bruised or whip-
 ' ped with cords; and being dead her body was open-
 ' ed on the ſame day, all her Bowels were ſound, the
 ' *Liver* in no default, only the Lungs were blackiſh
 ' through the aduſtion of the blood in the Diſeaſe.
 ' And now the Phyſicians quarrelled one with ano-
 ' ther; one blamed the *Clyſter*, which impeded the
 ' courſe of Nature, and retracted the humours in-
 ' wards; whoſe tendency was to the habit of the bo-
 ' dy: Others cenſured the Fomentation, which though
 ' *anodyne*, might cloſe the *Pores*, and give occaſion to
 ' the *bloody urine*, by repercuſſion of the puſtulary
 ' matter. Thus one Phyſician inveighed againſt the
 ' errors of the reſt; whileſt indeed *all of them ought*
 ' *privately*

Grems doth
 there defend
 the uſe of
 Clyſters by
 proſtical hiſto-
 ries: and ſo
 doth Augeni-
 and many
 others: and I
 have known
 them uſed
 wthout any
 peril.

' privately to confess, that their great failour was in
 ' omitting Phlebotomy, and that this was the
 ' cause of her death. Thus Physicians oftentimes
 ' occasion the death of their Patients, by not doing
 ' what they should, and not only by over-acting: this
 ' last is the default of those who attend on the sick,
 ' and first try their own pretended Experiments, then
 ' have recourse to the receipts of the populace, or pre-
 ' scriptions of some practising Ladies, and thus by do-
 ' ing what they ought not, they most officiously kill the
 ' sick, and prevent the seasonable advise of wise Physi-
 ' cians, who ought to have been consulted at first.
 ' These kind of persons are in as much default as those
 ' timorous and cautelous Doctors, who dare not admi-
 ' nister those Remedies which are necessary in acute
 ' diseases, but by neglecting their Patients, suffer the
 ' Disease to prevail over the vital faculties, and kill the
 ' infirm.

Thus far the *Helmontian*, but (to give him his due)
 judicious Practitioner: and I recommend this case to
 the Abettors of Doctor *Whitaker* and Doctor *Syden-
ham*: since there appears upon dissection that the *Small
Pox* had not fixed themselves within; but that a meer
 surcharge of the mass of blood (either natural, or con-
 tracted from the attenuation of the ebullient blood) was
 the cause of her decease.

I forgot in the conclusion of what I writ of the
Small Pox, to speak about *Bathing of the hands in
the Small Pox*, the practise whereof Doctor *Whita-
ker* represents, as having been fatal to the *Princess
Royal*. His words are, " I observe *Riverius* above
 ' all other Authors to ordain the bathings of the
 ' hands and feet, by reason of the density of those parts,
 ' in some more dense than others, as in Smiths, Carpen-
 ' ters, and Foot-posts, whose hands and feet are harder
 than

than persons of a more tender and sedentary Trade or Profession. I cannot but acknowledge that humectation, and attenuation to mollifie those parts, is properly indicated; but the *mode* of this application is observable, because upon the opening of the porosityes by bathing, the ambient air may obtain the advantage of repelling the morbidical matter from those ignoble and extream parts to the more noble, by the ambient air in the course of sanguineous circulation; and hath proved fatal in such as have rare and tender skins, as is proved by the bathing the Illustrious Princess Royal. — Concerning that Princess how she was ordered, and at *what time* of the Disease bathed thus, I know not: but 'tis an equitable presumption that in so important a case so understanding Physicians as she employed, did nothing rashly, or without reason. I find in the relation of her being dissected causes enough of her death, without imputing it to this usage: her Omentum was putrified, and much inflamed towards the Spleen-side: her Spleen was flaccid, and semi-putrid: her Stomach was inflamed, and on the inside beset with Aphthæ: her Liver spotted, and inflamed even to a Gangrene almost: her Lungs in a manner rotten, and replenished with black blood, spotted and pustulated in the superficies, the Parenchyma of her heart was much consumed. But had not these things been, nothing is more certain, than that of Petronius. *Quod non expectas ex transverso fit, et super nos negotium Fortuna curat.* But that Riverius doth prescribe this Bathing above all Authors, is a manifest falsity. His words are only these: *Ac primum in eruptione Variolarum, aut dum mature scire incipiunt, ingens dolor vel pruritus interdum agrotantes affligit; præsertim vero in plantis manuum et pedum, eo quod densior in iis partibus cutis eruptionem prohibeat. Cui symptomati medebersi, si partes illas decocto emolliente diutius foveas, vel in aqua calida detineas.*

Th. Barholin.
ep. medic.
cent. 3. ep. 29.

Laz. Riverius
prax. medic.
l. 17. c. 2.

detineas. I shall compare herewith the directions of *Horatius Augenus*, whose character I have already given.

He having prohibited the *bathing of the whole body*, *Hor. Aug. de doth add.* *“Sed non est eadem ratio in particulari febr. l.x.c.x.*

“balneo, cum scilicet partes aliquaspiam extremas lavacro calido fovemus, ut ex illis duntaxat citius & facilius variolæ exeant, doloremque mitigemus, ut plurimum, satis insignem: hoc quidem prætermitti non debet. Nam plerumque accidit, ut ex volis manuum & plantis pedum variolæ non erumpant, nisi cum maxima difficultate, et dolore: propterea expedit fovere eas partes aqua calida aliquando simplici, et aliquando simul decoquendo flores Camomillæ, aut Althææ, aut violarum, vel aliud ejusdem generis, quod fuerit ad manus. Hæcque antiqua extitit Arabum consuetudo; nam Rhazes ita scriptum reliquit: lib de Pestilentia, c. 8. Quod si in volis manuum expullulet, tu hæc ex oleo tepente, quo gossypia imbuta sint, multum refricato, & in calida aqua foveto. Verum si dolor non sedetur, nec pestis facile expellatur, tu sesamum perpuratum ubi contuderis, & in lacte macraveris, illico illinito, & in linteo per totam noctem alligato: dehinc ubi amoveris, & calente aqua foveris, rursus illinito. Verum si velis, palmulus ubi contuderis, & in butyro macraveris, vel in sesami sæce illinito: Siquidem hæc, & similia, cutem remolliunt, faciuntque ut pestis facile excernatur & dolores cedant. Hæc Rhazes. Quæ omnia judicantur mihi saluberrima in præsentia casu, nisi quod abstinere ab oleo, quia facit ulcus ipsum sordidissimum, ac sanatu difficile. Ego autem nullum inveni præstantius remedium, quam fovere partes extremas manuum & pedum aqua tepida: vel decoctione florum camomillæ & Althææ. Quod si emollire adhuc magis voluerimus, decoquo simul semina fenugreci.

This Bathing is no less recommended unto our practise by the diligent and learned *Forrestus*, who speaking of an ancient Woman, (of fifty years old) which was sick of a Malignant pestilential Feaver, accompanied with the Measles, (that came out on the sixth day) concludes the Observation thus:

*Forrestus lib. 6
obs. 92.*

“ *Huic tamen (quod fere jam omiseram) ingens pruritus & punctio in plantis pedum ac volis manuum aderant; pro quo symptomate mitigando, quum maxime eo & intolerabiliter affligeretur, ut se potius mori velle diceret, quam illum pruritum & punctiorem ferre, jussi ut pedes & manus continuo teneret in aqua calida. Quo consilio pruritus tum punctio cessarunt, et melius percutem in volis manuum et pedum morbilli emergebant. Hujus rei experimentum notatu dignum ab ipso Astario Papiensi medico accepimus, quod etiam Arcanum a Nicola Florentino medico sui temporis insigni mutavit: cum idem sic scribat cap. de Variolis et Morbillis, circa finem, de corrigendis accidentibus eorundem. Si fuerit punctio plantæ pedum, aut palmæ manuum, ponantur dicta membra assidue in aqua calida: ut dicit Nicolaus; & ego vidi multum conferre. Hec Blasius Astarius Papiensis in libello suo de curandis Febris, qui adjunctus est praxi Gatinarie: quod quidem experimento ab hoc symptomate molesto et gravi nostra agra liberata est, et brevi, Dei nutu, evasit et in totum sana facta est.*

Herewith agreeth the injunction of *Hoeserus*, which runs thus. “ *Ubi in variolis plantæ pedum et manus, quod sæpius fieri solet, gravi pruritu vexantur immitte membra in aquam calidam, quod pro secreto habet Forrestus.*

Hoeserus Her. cul. medic. lib. 7. p. 366. edit. ult.

I need not any more *Authors*: what hath been said, is sufficient to justify the practise to any intelligent person, and to disprove the Assertion of this Doctor; but

but as *that* is most *untrue*, so are the Reasons he gives no less *vain*. Whereas he is pleased to think that there is no such *density* in the *skin of the hands*, as is generally supposed, except in *laborious persons*: 'tis certain that some have it so *naturally*: as *Scipio Nasica*, who was therefore in *raillery* demanded by one, *If he used to walk upon his hands?* Moreover, though that which is called by Anatomists the *Cutis* be *thinner* in the *hands and feet* than in other parts of the body, yet is the *Cuticula* thicker there, and 'tis possible that even it may admit of a *latitude* in its *native density* and *porosity* in *individuals*, since 'tis acknowledged and hath been observed, that some persons have had a double *Cuticula*. It is also certain, that the *texture* of the *Cuticle* may be so changed, that those humors which issued thereout by way of *insensible transpiration*, may be at some times *intercepted* and lodged in the *skin* and under the *Epidermis*: and if so, *Why may not that happen in a determinate part, which does happen universally?* In fine, 'tis frequently observed in *Scorbutics* and such as are said to have an *hot Liver*, that they feel a troublesome *heat in the palms of their hands*, and *soles of their feet*, (notwithstanding that otherwise they have *delicate and tender skins or bodies*) which introduceth a *dryness* in the *Cuticle* there: and can there be *dryness* without a *condensation of the Pores?* or can there be such an *heat*, without an *obstipation thereof?* And doth not such a *condensation, dryness and heat* indicate a *befitting relaxation and humectation?* How then cometh it that any man should deny the *possibility* of the *Phenomenon* in the *Small Pox* (especially since daily events make it *sensibly manifest*) or refuse to practise what is indicated? I confess the old procedure of *England* is, to anoint with *unsalted Butter*, or to *bathe with Butter and Beer*; which is conformable to the documents of *Rhases*: But you see the practise of *France, Italy, high and low Germany*, doth warrant the

Petrus Lau-
remburg. Col-
leg. Anator.
disp. 2, sect. 14

P. Lauremberg.
ubi supra,
sect. 13.

use of warm water. He further urgeth, that upon the opening of the Pores by bathing thus, 'tis possible for the ambient Air to gain such an advantage upon the sick, as to repel the morbidick matter from these ignoble and extreame parts to the more noble, in the course of the sanguineous circulation. But since continual practise doth manifest (as appears by the Authors cited) that this doth not inevitably nor commonly happen, What is an effect of negligence in the Attendants, or unknown idiosyncrasy of Patients, doth neither disparage the Physician, nor contra-indicate to the Remedy.

And so much for Doctor Whitaker; to whom the English are obliged for his good intentions towards them in that Treatise: but not for his performances: 'tis his latest Legacy to his Countrey; but in Legacies it often falls out that the Legatee receives no other benefit by the gifts of a Testator, than that he is assured he remembred him, and had some resentments for him.

where I say that letting of blood doth not, except by Accident, in some persons, produce fatness: I do confirm my Assertion further by the Authority of Epiphanius Ferdinandus, who in his advice to an Italian Prince how to prevent excessive Corpulency, doth direct a Phlebotomy, and that to be repeated in both Armes. Neither do I remember any Commentator upon the Aphorismes of Hippocrates, who hath not directed that course for the extenuating of Athletick bodies. This is a case in which the Germans are reconciled with the French and Italians; and wherein Prosper Alpinus accords with Franciscus Sylvius de le boe: the former sayes, that since frequent and large eruptions of blood do continue the Patients lean, or reduce them, that are otherwise fat, to such

Epiph. Ferdinandus, histor. med. 82.

Haller. in sect. 1. aph. 3. & Liebau. Hier. Thriver. ibid. Heurnius ibid.

Prosper Alpinus. med. method. lib. 4. c. 19.

an


an habit; that even *Nature* seems to instruct an *Artist* so as to promote *such like evacuations*. And the latter avows that *immoderate growth of the musculous parts is to be prevented* (amongst other accessional courses) *by often bleeding*.

Fr. Silvius de
boa pr. med.
l. i. c. 38.

I think there needeth not any more to be said about the point: neither can it be justly doubted, but that if *Plebotomy* had so usually produced this effect of fatness, it would have been reduced into *observation* by *Physicians* before 1650.

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 NATIONAL BUREAU OF ECONOMIC RESEARCH
 79 JOURNAL OF POLITICAL ECONOMY, Vol. 112, No. 1, February 2004

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Where I treat concerning *Phlebotomy* in the *Small Pox*; that it may be safely administred, even after that they begin to appear: It is justified by a multitude of *Examples*, one whereof lately was *Sr. W. Roberts*, aged above forty years (as I am most credibly informed) they did not come forth kindly, but most perillous *symptoms* did multiply upon him, so that his condition seemed desperate; yet upon the administration of this generous Remedy, their eruption was expedited, and all danger ceased, so that he recovered with ease. And at *New Colledge in Oxford*, in the year 1660. (or 1661. I remember not well the year) the *Small Pox* raged with much malignity, and proved mortal to many; but it was aparent that few (if any dyed) who were let blood; whereas on the contrary, those that were not *Phlebotomised* died all; (or generally) de cease: This I was assured of by more then one, who were then present; though not being *Physicians*, they could not inform me of other particular *Circumstances*.

Concerning *Phlebotomy* in general, there is one Objection against it, that I think I ought to take notice of, since it proceeds Originally from some *Virtuosi*: And though one that hath urged it, be most grossly mistaken in his assertion that the *Turks* use no *Phlebotomy*, the contrary whereunto is not only evident out of *Prosper Alpinus*, but is confirmed unto me by the observation of my intelligent friend *Mr. Denton* of *Q. Colledge in Oxford* (nothing being more frequent at *Constantinople* then to bleed upon every small occasion, and every Barber there being a *Phlebotomist*) yet I believe that in *China* and *Japan* the *Natives* do not practise *Phlebotomy* though the *Europeans* there do: Notwithstanding this, I do, not apprehend the force of the Objection as 'tis managed against *Plebotomy*, nor can I commend their judgement who from those *Presidents* (which indeed are but one Authority, the *Japoneſe* being no other then a *Chinaſe-Collo-ny* (would put us upon an Essay of practising without *Veneſection*. For, the difference of particular Countries and Nations (arising either from their *Temperament*, *Diet*, and *Eſſicacious Medicaments* and *Method of Curing*) as to render

Phlebotomy

* Place this after folio 257.

Phlebotomy useles or dangerous *there*; whereas in *other places* there may be (nay 'tis certain is) a necessity for a different procedure. I have already remarked that at *Montpelier*, there is a greater repugnancy unto, and danger of *Phlebotomy*; then at *Paris*: And the Presidents of the one Province doth not oblige the others: And though it be true that as in *China*, so in *Langidock*, Physick is in a good condition, yet doth it not follow that therefore it is in a bad condition in the other parts of *France*, *Spain*, or *Italy*, &c. 'Tis no less certain that in *hot Countries* (as well as here in *Summer* and *Winter*) the method of carrying varies from what is to be practised in colder *Climates*: And as wounds in the *Head* and *Leggs* are in some places cured with much more easie Medicaments then else where: So 'tis no less manifest that 'tis irrational to conclude from the facility of those Cures in the places *aforesaid*, that those are impertinent and mistaken, who in other *Regions* proceed by a more tedious, circumspect, and vexatious Method. Against that single instance 'tis almost the voice of Nature which we alledge: and since the learned and Barbarous, *Europe*, *Asia*, *Africa*, and *America* (where no Combination or Traditional Doctrine derived from one to the others can be supposed) do concur to justify the practise of *Phlebotomy* against the Natives of *Japan* and *China*, let us reckon it amongst their singularities (and founded upon motives peculiar to them) or amongst those Errors which their affectation or ignorance hath particularly involved them in. To conclude, since the Miracles of their *Cha* or *Te* do not appear to us Practitioners in *Europe* to be true; though the use thereof

The same Observation be so succesful *there*; the cause thereof is to be ascribed to Circumstances of their Climate, Rhubarb, China-root, mate, and way of living, and accessional Contrayerva. Therapentics) so neither is there any argument from their Omission of *Phlebotomy*, that we may omit it here; or that we should dare to imitate them; but of this we may judge better when the *Virtuosi* receive from the *West-Indies* such an exact account of all Circumstances as may regulate a Physician.

A
RELATION
OF THE

Strange Symptoms

Happening by the Bite of an

ADDER,

And the CURE thereof:

IN A
LETTER

TO A
Learned Physician.

By H. S. Physician at Warwick.

L O N D O N,
Printed in the Year 1671.

RELATION

OF THE

Strange Symptoms

Experienced by the late Mrs. M.

ADDER

And the CURB thereof

LETTER

TO THE

BY M. D. D. D.

AND

IN THE YEAR 1750

1750



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TO THE READER.

A *L*though the insolence of some pretenders to Experimental Knowledge might discourage any Physician from contributing to the instruction of this Age; yet I have suffered my self to be prevailed upon so far as to publish this discourse. I might have enlarged upon it several wayes, and added besides some Observations upon Adders, the way of preparing **Viper-Wine**, and sundry Cures performed by it, and the prepared flesh thereof. . But seeing that all we do of that kind doth but furnish a company of arrogant and ignorant Experimentators with subjects to oppose us, and undermine the Faculty; I am become inexorable as to that matter; and will

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not

To the Reader.

not be in the least instrumental towards the laying on of those Fetters which some men were preparing, not only for all Artisans, but all ingenuity and learning. This race of men who had determined to value and praise none but themselves, and extended their Civilities so far, that all their mutual Elogies do import no more than a trade of smoak and ceremony, may now abate of their pride and censoriousness, and be satisfied that they are not necessary to the World, except one have an occasion to send to the East-Indies to know what grows in America, or to South-wales for an account of Nova Zembla, or the Countries subject to the North and South-pole: If all History and Antiquity be to be affronted most impudently; if false Relations concerning Salt-peter, Cider, Birch-water, &c. seem requisite: If Chimæras be to be proposed, or the Education and Religion of our native Country changed, there is some use for this Association, which considering their Armes, Projects and Deportment, alwayes puts me in mind of that Poetical Fancy described to be

Πρότερον δὲ λέγει, ὅτι οἱ τῶν ἑσθίων, μέντοι ὃ ἡμεῖς.

Had I written according as they replied,
I

To the Reader.

I could have confessed my self mad : and less than a distracted Brain would never have chosen to desert Aristotle and Quintilian to imitate the fam'd Impertinencies of the Orator Posthumus, who being to plead a case about three Goats that were stollen, began an Harangue about Sylla and the Mithridatick Warre, and never touched upon the main Controversie any more then doth the illiterate Ecebolius ; who what He designs I cannot tell by flattering Doctor J. W. and Mr. R. B. and terming an old Parliament Officer (who hath the Canker of Presbytery, and the Conscience of an Olivarian ; and who knows nothing by me, a stranger to him, though he hate me for knowing too much by him) the Loyal C. E. D. And Letter p. 32.
as great a Riddle is it, how this Renegado-Presbyter should dare to say, that there is not a Man born since 1936. less obnoxious to the Church and Government. Will the generous Cavaliers endure this Ibid.
from a Rump-Chaplain ? Who confesseth himself to have been a Preacher in those dayes, and never gave his Vote for Episcopacy (but preached against Christmass-Pies) till a year before the Kings coming in. Certainly he was a very Fool, who could be in those dayes so ignorant of the

To the Reader

controverted Points; and 'twere an intollerable extravagance in any but a Virtuoso to write this now. But I shall call him to a particular account for all by the next Term.

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A
RELATION
Of the strange SYMPTOMES
Happening by the Bite of an
ADDER.

Honoured Sir,

I Have at last finished the cure of that Man who was so unfortunately bitten by an *Adder* here at *Warwick*, and because of the *rarity* thereof, I shall satisfy your desires in penning it.

Upon *May* the seventh, 1671. *Joseph Denny* a poor Man in *Warwick* (usually employed by me to catch *Adders*) walked out with his *Brother* to conduct him a part of his way homewards, and having gone about a Mile, he espied an *Adder* lying in the Sun, it being about six a clock in the morning: he was willing to shew his *Brother* the *curiosity* of catching *them*, and how *dexterous* he was thereat: and though he had neither

Glove

Glove nor Tongs with him (as not designing *that work on Sundayes*) he did notwithstanding cast himself near the *Adder*, and nimbly seising on her Tail threw her from her *Covert*, with such *celerity* that she could not bite him, and then haltered her with ease: A little after he espied another, but lodged in a place of more *difficult access*: In this attempt, which is performed with so much agility, it was his misfortune to seise upon the *middle* of the *Adder*, and before he could *disengage* his hand, she bit him on the inner side of his *middle finger*, just upon the *middle joynt*; yet did he dislodge her from the *Covert*, and took her. There appeared the impression of the *two teeth*, (though I speak as of a *female*, yet 'tis more than I know which it was, and usually they are *males* which have *two teeth*) but the pain was no other than one would feel upon the *pricking of a pin*.

Being solicitous about his condition, he took leave of his Brother, and perceiving a *little blood* upon the wounded place, he *sucked* that and the *virulency* (as he thought) out, and then spate it forth of his Mouth: then he washed the place affected with *cold water*, and finding the *tumour* and pain to increase (which was not such as happeneth upon *inflammations*, but like that which precedeth a *Sphacelus*, and was accompanied with a sense of benumbedness) he hastened home *unto me*, whom he knocked up before *seven a clock*, and having only time to signify his condition, at the door, he ran to his own house, to enjoy the convenience of his *bed*, and the attendance of his *Wife*, who immediately repaired to me for directions; the whole Hand was extreamly *tumified*, and *black*, and the swelling began hastily to dilate it self towards the Elbow: He was seised with a *Vertigo*, *vomiting*, *swooning*, and a *cold sweat*, the violence whereof

whereof was such, that the drops trickled from his Head, as if his Hair had been wet with a great Rain, or water: where each Tooth had fastened, there appeared a blackish Pustule, or Blister; I appointed his Wife to make a strong Ligature above the tumour, at his Elbow; and having clipped the Blisters, to hold a red-hot Fire-shovel as near to the part affected as he could endure it, and to give him a good draught of *Viper-wine* presently: At her return she found her Husband not in a condition to speak intelligibly, his Tongue was swelled, and he faltered in his speech, as those do who have an *Hemiplegia* or *dead Palsie* in their Tongues: Upon the drinking of the first draught of the said Wine, he vomited up abundance of bitter *Choler* mixed with *Phlegme*, coloured yellow, green, and blew; then she gave him another draught, (at both times half a pint at least) whereupon his vomiting and swooning ceased, and his speech returned to him: The Ligature had put an happy stop to the progress of the tumour, but the heated Fire-shovel produced no effect at all, the tumour and pains still increasing betwixt the wounded place and the Ligature: By this time I had got on my clothes, and hastened thither with a *Chirurgion*: I found the man as cold as any dead Carcase, and all over turned as black as a Tawny-moor, (though otherwise his skin was very white) and amidst the blackness of his hue, there was a visible mixture of greenish-yellow: I could not feel any Pulse in either Arm, and he complained of a palpitation of the Heart: I caused two Scarifications to be made on each side of the Finger above the joynt, as deep as the tumour permitted, and four more to be made on the back of the hand in the like manner: and upon incision the flesh did cut as if it had been of a dead body, there issuing neither blood nor any serous liquor, though he had his feeling there as entire as ever: I layed to the
places

places a Plaister of *Venice-treacle*, and gave him inwardly above half an ounce thereof in some *Viper-wine*: the operation whereof was not such as to beget any warmth in his body, or any pulse, or the least alteration in his Arm; whereupon I sent for some *Angelica-water* (being unwilling to give him more of the *Viper-wine*) and put into a draught thereof at least two drachms of *Mixtura simplex*, upon the taking whereof his Pulse returned immediately, and a warmth diffused it self all over his body, excepting the affected Arm, his cold sweats ceased, and a red colour came into his face, the palpitation of his Heart left him, and he became chearful: I repeated the dose, and caused *Fire-shovels* to be heated five or six times and held near the scarified places: hereupon he fell into a great sweat all over (except that hand) the affected part became hot, and the scarified places bled abundance of florid blood, which I suffered to flow without any impediment: where the Teeth had fastened there came forth as I took up the Plaister of *Treacle* two little pieces of black flesh of the bigness of a great pins head; and finding him in this hopeful condition, I went to Church, directing that he should not sleep (to which he was much inclined) and that there should be given him for food only some *Mace-beer*, with a little *Sage* and *Wormwood* boyled in it; and that he should take every half hour two or three Spoonfuls of *Angelica-water*, with some ten drops of *Mixtura simplex*, and continue his sweat.

After Sermon I found him very chearful and well, no pain in his Arm but what seemed to proceed from the *Ligature*: whereupon I caused the Arm to be unbound, and washed with *Aqua vite*, and a new but gentle *Ligature* to be made higher, towards the Shoulder: and that he should continue the *Cordial*, and the Sores were dressed with a mixture of *Venice-treacle* and

and *Basilicon*, and pieces of *Lint* dipped therein were put into the *holes*, whence the *mortified flesh* had come forth.

After *Dinner* I found the man in the same condition wherein I had left him, only the tumour had diffused it self to the *shoulder* and *Arm-pit*, and sent pains as far as his *right Breast*: He had of himself *two Stools*, in which there was nothing observable: I directed the taking of his *Cordial*, and at *night half an ounce of Venice-treacle*.

But in a few hours after, there being no considerable evacuation of matter, there was applyed to the Scarifications a Plaister of *Burgundy-pitch* and *simple Melilote*, equally mixed: whereupon there issued forth in good quantities a yellow ichorous matter, the *efflux* whereof was continued by the application of *Basilicon* and *Venice-treacle*: where the *Bite* was, the *Sore* grew *foul*, and thereupon that was dressed with *Basilicon* and *Aegyptiacum* mixed: And thus the Cure was prosecuted to the end, according to the discretion of the *Chirurgion*: only during the first and second day, the *violent tumour* of the *Finger*, *Hand* and *Arm* continuing (notwithstanding the evacuation by *Scarification*, and diffusing it self) I did give way to the applying of a *Pultice* to the *Arm* (from the *Wrist* to the *Elbow*) made up of *Oatmeal*, *green Betony* shred, and *Milk*, to which was added in the end a little *Oyl of Roses*, *Oyl of Mallows*, *Sheeps Suet*, and *Oyle of Spike*: the which *Pultice* had been tryed in *Warwick* upon the like case, when all the discretion of a knowing *Chirurgion* could not secure the like tumour from an *imminent Gangrene*, the pain also dilating it self, as in this case: and to the tumour on the back of his hand was applyed *green Wormwood* shred, and heated as *hot* as could be indured.

Being called out of Town, at my return the next day I found the *tumour* and *pain* much abated, the Man so well as to sit up, without any ill symptome, only he had made no *water* since the *Bite*: whereupon I appointed him to take once in two hours a drachm of *Sal-Prunella* in his *Mace-ale*: and at the *first* dose he made much *water*, but it was of so deep a *red*, that his Wife imagined it to be *blood*: the next was *high-coloured*, but on the next morning I found its colour to be natural: The *tumour* on Tuesday being almost gone, and the pains every where vanishing, I appointed the *Chirurgion* to keep the *Scarifications* open, and to order them as common *Sores*, but to continue to the *bitten* place (both *holes* being run into one) the *Basilicon* and *Treacle*: and being willing to preserve my *Venice-treacle*, I appointed he should take a *Clove* or two of *Garlick* every morning: which, howsoever it be commended in *this* case, did produce such a pain in the *Sore*, that I was forced to alter it for some *Mithridate*, to be taken every *night* and *morning*: The same week he was so well as to take me (but with more caution) twenty *Adders*: and now, after three weeks time, the *Sores* are all well, and not any *tumour* remains, he being purged only, in the conclusion, with the decoction of *Damask-Roses*.

Vide Santem
Ardeum de
venenis l. 6.
c. 1. p. 335, 336
ex Serapione:
Fortius ju-
vamentum est
in comestione
alliorum, est
enim curatio
fortis valde.

But after a few dayes a *new* and *strange* Symptome appeared, all his *Back*, *Breast* and *Belly* became spotted with *yellow spots* (of different Figures) resembling exactly the colour and bigness of those of the *Adder* which bit him: the rest of his *skin* being *white*: and this continued from about the *fourth* day till now, with this discrepency, that in process of time from *yellow* they turned *brown*, and so by little and little disappeared: some remains thereof are still visible; but he is perfectly well, (excepting a sense of

of benumbedness in that and the two subsequent Fingers, which seems to shoot from the head of the radius at his Elbow) and hath been on mowing several times; and is more corpulent than ever before: And that part of the Skin on his Back, Breast and Belly, which was so spotted, now peels off, and a whiter one succeeds in its place.

Having given you this account of the Accident and its Cure, I shall add some remarks thereupon.

It may perhaps be expected that I should have applied the Head of the Viper unto the wounded place, or some sliced Pigeons or Chickens: but the Accident being proceeded so far, I durst not adventure the Patients life upon such Remedies, as if they proved ineffectual might frustrate the use of other more generous Medicaments.

The use of the heated Fire-shovel you see answer'd not those praises which Mr. R. B. honours it with: as little doth Mr. Charas attribute thereunto, in the cure of that unfortunate Gentleman whom He recovered. I add, that the Remedy is older in England than Mr. R. B. and his Friends: I have read in sundry ancient Receipts both Printed and Manuscript, where for the sting of a Wasp, Hornet, Bee, or Adder, the application a Coulter red hot, as near to the affected place as possible, is advised: and certainly the efficacy of the heated Coulter must be greater by reason of the intenseness of the heat, than his thin Knife or spatula can promise. Let us hence learn, that though the Virtuosi do write, yet do not we improve alwayes in useful Knowledge: and if at any time the Medicaments of the Ancients do fail our expectation; those of the Moderns (I wish they would not upbraid

Mr. R. B's.
usefulness of
Experimental
Philosophy,
part. 2: p. 49,
50.
Mr. Charas of
Vipers, c. 8.

us with old Remedies) lye under the *same uncertainties.*

Andr. Baccius
de venenis,
pag. 16.

I did not *cauterise* the place that was wounded , because it was so near the *ligaments* and *nerveous* parts ; besides, I had no great opinion of its *successfulness*, for the *venome* having diffused it self so far, could receive no stop by such a *cantery* : I add, that when *Baccius* had so *cauterised* his Apothecary, who was bit in the Thumb , and that within half an hour after the bite, notwithstanding *that*, he fell into most *virulent vomitings*, and other dangerous symptoms, and had in all likelihood died, had not he been carefully attended and followed with Antidotes forty dayes : Whatsoever is said of such *cauterising* , it *strengthens* the part, hinders *afflux* of humours, and their *efflux* also, whereby the *venome* is continued in the Body ; but 'tis our *intention* to evacuate it by the place *bitten*, as every man knows.

Vide Zwelfer
in pharmaco-
poe. August.
in notis ad
Sal. Theriacal.

In the *Cure* it is observable, that the Man principally attributes his recovery to the *Viper-wine* ; though I much doubt whether it would have been so effectual, had I not incessantly administered unto him the *Mixtura simpla*, or until I threw him into a *sweat*. However you see that there is no such absolute necessity of the *Volatile Salt of Vipers*, that Mr *Charas* so much magnifies : my *Cure* was more *expedite* by much than his, though the Wound were more *dangerous* : and he acteth the *Virtuoso*, not only in stealing that preparation of the *Salt of Vipers* from the candid and learned *Zwelfer*, and never mentioning him, but in *boasting* so much of a Remedy which the *Galenists* may want without any prejudice, and which in many cases I have found far inferiour to *Viper-wine*, and of no other effect than what you may expect from the

Volatile

volatile Salt of Harts-horn fixed in the like manner.

As to the *Symptomes* which befell this man, most of them are taken notice of by several Authors, though all that are *bitten* do not suffer all the same *Accidents*: the *idiosyncrasy* and *anger* in the *Adder*, and the *divers constitutions* and *apprehensions* of the *Patients* creating such *variety of Accidents*: but in many things did our *case* differ from what is related by any one *Physician*, as you may see in *Sennertus*, and *Santes Ardoynus*, *Paræus*, and *Doctor Read*. The rising of the *black Pustules*, and the *stoppage of Urine* seems to be designed by *Sennertus* and *Santes Ardoynus* by their *Difficultas Urinæ*. But how far it was from any *inflammation* (which some speak of) you may judge by my *Relation*, which favoureth the Opinion of *Galen*, *Mesue*, and *Aaron*, that the *poysen* of *Vipers* is *cold*.

Santes Ardoynus
de venenis,
lib. 6. c. 1.

Upon his sucking of the *Wound*, and the evil consequences thereof, it is observable how unsafe that direction of *C. Celsus* (*Vesalius*, *Forrestus* and others) is, who advise that a man should suck the bitten place. In *Amatus Lusitanus* you will find a relation of one who dyed by sucking of the place bitten by a *Viper*: The same is avowed by *Matthiolus*, as *Paræus* recordeth the *Story* out of him, and instanceth further in a *Patient* of his own, who was much endangered by sucking, upon the bite of an *Adder*. It is also dilated by *Epiphanius Ferdinandus*.

C. Celsus medic.
lib. 1. c. 25.
Vesalius de
lib. 2. c. 10.
Forrestus de
lib. 1. c. 10.
Amatus Lusitanus
de lib. 1. c. 10.
Matthiolus de
lib. 1. c. 10.
Paræus de
lib. 1. c. 10.
Epiphanius Ferdinandus
de lib. 1. c. 10.

I forgot to tell you one *Accident*, and that was on the *third day*, when he was taken with so great a pain in the bottom of his *Belly* towards the *Perineum*, that he (to use his own expressions) seemed

Termina ex
intervallis
excruciant.
Parac. chi-
rurg. l. 20.
c. 16.

to be torn in pieces thereabouts : of which *symptome* I have not read any thing, unless it be that amongst the consequents of such *Bites* the great *Paracelsus* doth say, that *Torsions in the Bowels do by fits afflict the Patient*. But this happened after that he made water freely, and without any pain but what he felt by way of debility in the *Muscles* subservient to that evacuation.

I might prosecute the Discourse so as to discourse about the *venome* of the *Adder*, wherein it consists : but much hath been said on that *Point* by *Zwelfer* (out of whom *Choras* doth steal much of his Book) and others.

Galen. de
simpl. l. 10.
Prosper Alpin.
med. meth.
l. 4 c. 4.

That a *Viper* is not poyson, when drowned and *purtrified* (if I may so call it) in Wine, appears by the Relations of *Galen* : And *Prosper Alpinus* saith the same of those *Snakes* which the *Italians* call *Anzas* : and daily experience sheweth the truth thereof ; nor do I believe that any ever reaped any inconvenience from *Viper-wine* made in that manner, except it were by accident, though for some Reasons I do not follow that way. I have drunk of the *Wine* made so, even when I have angred the *Adder* before I put it in. I have tasted the *Gall* and that *yellow juyce* which lyes about the *Teeth*, without any hurt : the *yellow juyce* did to me seem *insipid*, or a little *sweetish*, if it might be said to have any taste : Mr. *Charas* sayes he found the taste of a *Salvia* or Spittle sufficiently flat, and approaching enough to the taste of *Oyl of sweet Almonds*, in the *yellow liquor* of the Gums. Herewith agree *Amatus Lusitanus* : though *Zacchias* say that his Apothecary tasting thereof found it to be *Saporis insipidi cum ponticitate* : And it seems to me indubitable, that the *venome* of the Animal proceeds from its in-

Zacchias qu.
medico leg. 1
l. 2. tit. 2. qu. 7.
sect. 10.

dignation :

dignation: (which opinion *Poterius*, *Helmont*, and *Zwelfer* proposed before *Charas*) and that there is a *virulency* in the Wound appears by the *evil accidents* upon *sucking* thereof: Yet must I note, that *Veslingius* saith of the *Teeth*, that the *poyson* doth *formally* lodge there, and that the *Teeth* being taken and rubbed upon any Weapon do give it an *impoysoning quality*, if any be wounded with it.

But I shall detain you no longer, though I could shew some defaults in *Charas*, and illustrate the History of Adders, by Observations upon the several Animals into which I have suffered the Skins and Livers to putrifie: But I shall conclude with the profession of being,

Warwick June 12:
1671

SIR,

Your most humble Servant

Henry Stubbe.

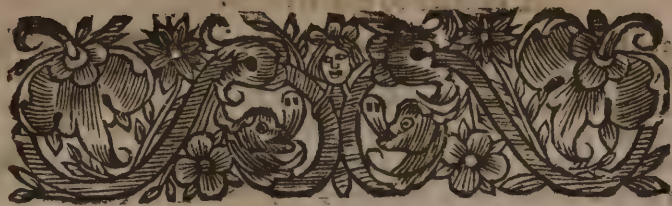
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To The
R E A D E R.



About Christmas, I was earnestly pressed by some Persons of Great Learning, and of no Common Repute, to make some Reply unto----- G. Thomson, not only to chastise his Insolence towards me, (for which he had made me Sufficient Reparation by his Postscript against D. M.) but to punish him for the Indignities he had put upon my Faculty. Having finished that Treatise, I was importuned to write something about Phlebotomy, since he had made such a clamour about it against the Colledge, and that this Point had not been handled by the Adversaries of M.N. how necessary soever he had rendered it by the Publication of Medela Medicine. The Request seemed very Just, but how I should be able to perform the Undertaking to my own Satisfaction, or that of others, I knew not: For this Age seemed so to have charged the Methods of Ratiocination, & so altered the Principles of Physick and Philosophy, that for a man to argue as our best Writers do, were to subjeſt the Case to all manner of Scorn and Contempt: And how I should reduce the Phenomena which are undeniably consequential to Plebotomy, under one plausible Hypothesis, I did not well comprehend: For I had no Collections upon the Subject (indeed I never made any in my life upon any, but remit all to the strength of my Memory, and that now declines) nor had I ever framed to my self any Idea of things that might accomplish me thereunto: Though I have for sundry Years been contriving some

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Materials in order to it : And had seriously gone about it, but that my Contests with the Virtuosi have diverted me, and the Troubles and Dangers they have ever since alarm'd me with (even to the hazard of my Life, and Fortunes) made me unwilling to begin what I should never have opportunity to conclude. However, since they were pleas'd to have some Opinion of my Abilities, and promis'd to acquiesce in what I could do under so little Leisure, as my Practice affords me, and so great Disadvantages as my Disfurnishments created me; I did submit to the Task. And thou hast here, Reader, what my Thoughts could Recollect and Digest in the Space of a few Weeks, and those Interrupted with other business's, amidst so slender a Library as mine is; the Defects whereof, I could not supply any wayes, many of the Books which I would have made use of (and which I lost by the late Fire) being not to be found in any Library, or bought in England: So much decayed is the Trade of Book-selling, together with the present Declination of all Learning. If, to have refuted my Adversaries, be all that thou expectest, I have done it perspicuously, and fully: If thou look'st for a compleat Hypothesis in defence of the Physicians Practice, I acknowledge the present Treatise to be deficient. For, as to the **Pature of the Blood**, though I have made many Essays in reference to the discovery thereof, yet one Inquiry hath so multiplied others, and there is such a variation thereof not only in Individuals, but according to the Seasons and Seasonableness of the Years; that I am better able to convince others of their Errours, than to demonstrate other Principles: Something I have done in order thereunto; and some things I could have further prosecuted, but would not: For I have no mind to instruct others too far: Let them study (or, to speak in the Dialect of my Enemies, let them Read Index's) as I have done: To what purpose should I add strength to those Fetters which are preparing for my Faculty? Or prejudice Learning, by qualifying a sort of Ignorant, Idle, Talkative-Infelents, to maintain Conversation in any Company! If I could see that the Parliament would, in pursuance of the Prudent Laws made by our Ancestors, regulate our Faculty according to Real Policy; and the Precedents of the best Governments, I would not only Contribute all I could to the publique Utility, but propose such a Designe, as should add more to the Advancement of Useful Knowledge, and that Learning, which is necessary to the Support of this Monarchy, as no Age did ever parallel; which should be **Facile, Practicable**; and the Effects thereof, should be more **Visible in three Years**, than theirs have been, who boast that they have done more in **five Years**,

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Heats, than the **Aristotelians** in more than thrice so many Centuries. *But let these men have their Desires; Let them be loaded (according to their own Overtures) with all that contempt which is usually the Reward of vain and unprofitable Projectors.* Plus ultra. p. 8.

I cannot but look upon it as a singular Act of Providence, that I should fix upon the present Title of this Book; and direct my Censure against the Lord Bacon, and those that pretend to be Followers of Him in Philosophy; seeing that it hath happened so, as that Ceebolus Glanvill hath made use of that Great Name, to excuse his Errours and Insolence; and thinks it a sufficient Apology, If he can shew that the substance of his most Obnoxious Periods and Passages, are to be found largely, and often insisted on by so Great, Learned, and Wise a man, as my Lord Bacon. Which defence, though it be no other than he might make, who should tender us a wrong Account of the Sweating-Sickness; or avowe that Coffi were Narcotical; or obtrude upon us a thousand Falsties out of the Philosophical Writings of that Lord, and Lawyer; yet doth it seem requisite that I should say something more in reference to his Authority, lest, what imported little in the Age when he lived, should be prejudicial, and destructive to that which succeeds. I will not deny that he was a man of good Literature, and great Eloquence, accompanied with a popular, and florid way of Expressing himself: By Profession, he was a Lawyer, and the principal part of his Studies were bent that way; and although therein he were surpassed by others, yet 'tis there that his Credit must seem most Authentick, or no where: We acknowledg no Chancellours of Philosophy, Philology, Medicine, &c. Nor do Artists suffer themselves to be over-swayed by the judgments of men, that are either totally unacquainted, or have but transitorily, and superficially looked into the Subjects they treat of. No Law ever made him our Dictator, nor is there any Reason that concludes him Infallible: Nay, it is manifest that he was frequently deceived. And, since the Gardiners have protested against him, and that justly: Since the Chymists, and the Mathematicians disclaim him: Why may not a Physician refuse to be tried by Him? Not that this doth introduce a Comparison of Abilities in general, but of knowledg in particular Cases; and the World hath always allowed, that A Person, otherwise Ignorant, even a Fool, may know more in his own House, than a Wise man doth in another's. Besides, I hope my Adversaries will permit me to retort upon the Lord Bacon, what they (though most injuriously) urge against Aristotle:

In his Letter
to M.S. p. 8.

See M. Austens
Observations
on his Natural History.

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See the Letter
against Aristot-
le at the end
of *Sceptis*
Scientifica,
p. 90.

(a) See the
Words of Ari-
stocles in Ca-
saubon's Notes
upon the fifth
Book of Dio-
genes Laertius:
In the E-
dition of Me-
nagius, p. 41.
42.

(b) See Mena-
gus's Notes
on Laertius,
Mb. 5. p. 110.
and Jonssius,
I 2. c. 2. p. 125.
Uti supra,
p. 91.

Uti supra,
p. 84.
Aristotel. polit.
L. 7. c. 4.

Notle: And to propose it to their judgment, "Whether 'twas like-
ly that my Lord Bacon was so far beyond other Scholars in his
Intellectuals, as these latter Times have presumed; when He
came so far short of most of them in his Morals? I believe
there is a near Connexion between Truth and Goodness, and
there's a Taste in the Soul, whereby it relisheth Truth, as the
Palate Meats; which sense and gusto vice depraves and viti-
ates. So that, though Wit may make the vicious cunning So-
phisters, and subtle Atheists; I doubt, seldom the most exercised
Philosophers.

I shall not prove this Charge by alledging Writers who were not
Born till above many Centuries; Nay, above a thousand Years
after: Such is Suidas, (who is very Fabulous) and S. Jerome. Nor
impose upon my Reader Authors who write quite contrary to what is
to be averred; as (a) Aristocles, and Arrian: Nor represent as
befitting Witnesses, a company of Buffoons, and notorious Lyers,
such was Timæus: But refer you to the Common Opinion
about Passages within the Memory of man, and to his Accusations
in Parliament (which are Recorded): and since He durst not stand
the Trial, but cast himself upon the Mercy of the House; his con-
dition admits of no Vindication; and I again retort the Words of
Ecebolius upon him: "Thus then you see an ill Character of the
Lord Bacon's manners from dis-interested Authorities; on con-
sideration of which, 'tis to me matter of some Wonder, that the
Memory of the vicious should be so blessed, and his Authority
so Irreproveable. — But to pass by this Argument, which I
confess to have been Weak, when first urged; but is Strong, when
it is retorted: I do say, that the Credit of no man is such, as ought
to sway us against manifest Experience; and if Aristotle teach me
that what is most Rationally insisted on, if it be sensually re-
futed, cannot be adhered unto without an Imbecillity of Judgment:
I am to be pardoned, if I submit not to the Inartificial Argument
of my Lord Bacon's Authority, when his Assertion is apparently
False: And so it is in more Cases than that of the Sweating-
Sickness. So it is in that Saying of his (so pressed by Ecebolius)
that he never names any ancient Author, but to Confute, or Re-
prove him: For he cites an hundred Authors in his Works by
way of Illustration; makes an Honourable mention of Hippocrates,
and no where reproveth him. Not to relate the Altar and In-
scription which he erected to Plato; and other Instances that might
be made of his mentioning Ancient Writers in places, where he no way
disparageth them, nor Animadverts upon them. So it is in the
places

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places alledged now by Ecebolius. For if it be evident, Aristotle did resolve his Philosophy finally into **Sense** : If it be evident, that Aristotle did propose, and pursue an **History of Nature** (which was carried on by his Successors, as Theophrastus, Erasistratus, Herophilus, and others) and esteemed no Universal Propositions to be true, but what are verified in every Individual (which is the Foundation of all he Writes about the Art of Reasoning :) If it be evident that the Glorious Body of Physick which we now possess, was principally erected upon his Physiology and Deductions (which he that Reads Galen, Mercatus, or Fernelius, may see) and our Practice is not only regulated happily thereby as to known Diseases, but directed in order to the Discovery of New Medicaments, and the Cure of New Diseases, (not to mention the Natural Improvements) : If these things are evident (which no Scholar can deny) what Truth can there be in those Citations or Aphorisms of my Lord Bacon, so much enforced against me by Ecebolius in his late Letter ? What doth he bring but fresh Testimonies of his intolerable Impudence and Ignorance, and create new Umbrages upon that Lord, when he recites an egregious mistake of His ? “ Si-----
 “ id minime eventurum fuisset, quod per annos bis mille jam fieri
 “ videmus : Nempe ut Scientiæ suis hæreant vestigia, & in eo
 “ dem fere Statu maneat, neq; augmentum aliquod memora-
 “ bile fuserunt ; quin potius in primo Authore maxime florue-
 “ rint, & Definceps declinaverint. This being said of the **Scien-**
ces in general, is an **Insufferable Untruth** : For who knows not the large Improvements that the Mathematicks received by **Eucld** (who lived after Aristotle) and others, Who had then advanced every part of the pure and mixt Mathematicks long before the **Verulamian** Philosopher writ this ? Who knows not, how **Herbary** had been improved by Theophrastus, Dioscorides, the Arabians, and other **Peripateticks**, in like manner ? Who can deny that Physick (in every part of it) and particularly Anatomy was improved by Erasistratus, Herophilus, Galen, Vesalius, Fallopius, &c. before the Lord Bacon ever sucked ? And what accessionalls had Chymistry received by the cultivation of the Aristotelians, before that the **House of Solomon** was dreamed of, or the **Ilew Atlantis** discovered ? Let us therefore not be concluded by the **Aphorisms** of this Lord : Let us not take his Assertions for Legitimate Proofs : Let these insulse Adherents of his buy some Salt, and make use of more than one Grain when they Read Him : And let us believe better of the Ancients than that their Physiology advanced nothing ; or that Their **Methods of Science** are so unfruitful, as

P. 9. 10.

Nov. Organ.
 Aphor. v. 74.

in so many Centuries not to have brought the World so much **Practical beneficial Knowledge**, as would help towards the **Cure of a Cut-Finger**. Because the petulancy of my Adversary doth enforce me thereunto, I do declare, that the Lord Bacon did steal the principal part of his **Primum Organum** out of Aristotle, and only disguised his Suggestions in a new Mode and Dress; As he likewise borrowed the best Rudiments of his **Advancement of Learning** from Ludovicus Althes de causis corruptarum Artium; What was his House of Solomon, but the Ecstase or Transcript of the Peripateticks establishment at Alexandria in the Museum of Ptolemæus Layides, and Demetrius Phalereus? 'Tis by his great Example that the Baconical Philosophers are such Plagiarists, and Relators of false and defective Experiments; Contemners of the Ancients, and opinionated concerning themselves. The only judgment I can make of my Lord Bacon's **Altings**, is, that being so Flagitious, and so Ignominiously degraded: He determined to redeem the **Infamy** of his past Life by amusing the World with **Plew Projects**; and to gain a **Chancellourship** in Literature, when he was excluded from that on the Bench: And to revenge himself of the Nation whom He had exasperated, by diffusing Heresies in Philosophy, and creating in the Breasts of the English such a desire of Novelty, as rose up to a Contempt of the Ancient Ecclesiastical and Civil Jurisdiction, and the Old Government, as well as Governours of the Realm: And the Root of all our present Distractions was planted by His Hand.

P. 4.

The mention of Ecebolius Glanvill seems to give me just occasion to digress here, and to give my Reader some Account of his late virulent Books against Me. I gave him no Occasion for to Write in that manner; nor did I Transgress the Act of Indemnity and Oblivion to depreciate the Virtuosi, though they were much more obnoxious than I: Whereas He, to accomplish a Revenge, doth begin with the Breach of Divine and Humane Laws: The Penalty in the Act of Oblivion determined after three Years; but the Command is no less than **Utter Oblivion**: So run the Words of the Act. The Rectour of Bathe tells me that, "If I think so in earnest, the Law is open; I may take my Course. — But this Divine might have known, that there are more Injuries, more Sins, than the Temporal Laws prescribe a Punishment for: And that the Obligation of the Law doth not depend upon it's having a Penalty annexed. The Commandment of the Sabbath was given, and the Violation thereof, a Sin; and he that had gathered Sticks thereupon

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thereupon was apprehended, and put into Ward, till God should determine how he should be punished. *Is not this a fit Person to be entrusted with the Cure of Souls! But to pass by His Impiety, and proceed to his Indiscretion; Is it not extraordinary, that He should upbraid me with adbearing to my Patron out of Gratitude, when He complied with the Same Parties out of Interest, and to advantage Himself? I could trace the Saint from Excester-Colledge to Mr. Rouse's; and the L. — W.'s, and from the Rota of Mr. Harrington, unto the Lord Mayor's Pulpit, when he Preached the Sermon about Catholick Charity. What Prayers, what Graces he uttered in those Families? 'tis easie to conjecture that they transcended a Negative Loyalty. But as for his Abettours, I have seen one of them Sneaking at Sir H. V.'s. He was Tutor to his Nephew, and Intelligencer during all the late Usurpations. He saith, He blames me not for Writing against Doctor J. W. but for treating him so opprobriously. I answer, that I gave him such Language as his Ignorance (in those Questions) did deserve: And I refer my self to all the Royallists, if any Language could be Malicious and Scurrilous, which was used against the Sub-Scribe to the Tribe of Adoniram, who had been an Active Preacher in the first War, and Decyphered (besides others, to the Ruine of many Loyal Persons) the King's Cabinet taken at Naseby, and, as a Monument of his Noble Performances in behalf of the Cause, deposited the Original, with the Decyphering, in the Publique Library at Oxford? As for Mr. R. B. who writ the Holy Commonwealth, and the Key for Catholicks: He having reviled on, and belyed my Patron, (as he did also the Church of England) and refuted his Notorious Lyes, and discovered the Ignorance of a Man who (till then) had in the Nation some Esteem for Learning; If this was not a considerable Service to the King and Episcopacy, I understand nothing: And though I did not intend it as such (which I yield) yet they are so generous and just, as to distinguish betwixt those who (though Undesignedly) served them, and those that did all they could, to Destroy them. The Key for Catholicks is Unrepented of; and I recommend that Book to the Perusal of the Episcoparians, and let them judg whether He that writ it, or He that opposed it (though in defence of Sir. H. V.) and pleaded earnestly for an Indulgence towards them in the Liturgical way, deserved best at their Hands? * I say, I could not abuse Mr. R. B. in those*

Numbers 15.
32, 33, 34.

P. 56.

* Take notice that the Pia Philosophia, and the Pre-

factory Discourse against me, came out both together, and were sent to me Bound together: So that I may be excused for mixing the Elogies bestowed upon Mr. R. B.

Dapex;

P. 5:

Dapes: And I cast my self upon the **Royallists** for my Judges: What say yee **Gentlemen**? Was He the only Man that spoke Sense in the Age of Non-sense? Was He **Reverend, Learned, and Ingenious**? But, What is it that **Ecebolius** doth purpose to himself? Would He overthrow all our Laws as well as the Act of Oblivion? Why doth He now careesse this Party so highly? He adds, That 'tis to be hoped there are not any more Criminal than I on this side **Charing-Cross, Tyburn, or Tower-Hill**. Is not this all one, as to bid **Derrick** take the **Authour** and **Approver** of the **Bindarick Doe**? Is it not to Sentence unto Death the Actours of the first War ('tis well his Patron **Mr. Rouse** is dead) the **Trooping Divines**, the **Decipherer** of his Majestie's Letters, the **Followers** of **Oliver**, and **King Dick**, not to mention others? The truth is, **I** most generous and candid **Royallists**, being a **Poor Boy** at **Westminster-School** (as my Reverend Master, **Dr. Busby** can tell you) aged about Ten years old (there are but few years difference betwixt my Age and that of **Ecebolius**) **Sir H. V.** casually coming to School with **Dr. Osbolston**, did take a kindness to me; and frequently relieved me with Money, preferred me to be a **King's Scholar** first, and afterwards to **Oxford**: At such times as I had convenience, I had the liberty to resort to his House, and fill that Belly, which otherwise, had no Sustenance but what one **Penny** could purchase for my Dinner: I had not any Breakfast, except I got it by making some bodies Exercise. My Mother had two of us to maintain by her Needle at London, after we had Travelled on Foot from **Liverpool** thither. I was not a little obliged to the Charity of my good Master, for Money to buy Books, and Cloathes, besides that He gave me my **Schooling**. I was sent to **Oxford** after the late King was **Beheaded**, being aged about Seventeen, and very Little of Stature. The Quarrels, and Animosities growing high betwixt the **Presbyterians** and **Sir H. V's** Friends, I sided with him. Was it, Generous Sirs, any Faction in me, or the Testimony of a Factious Spirit to oppose the **Presbyterians**? or, was it a Crime then to serve my Patron? Twice I with Tears implored the Protection of **Sir H. V.** and **C. L.** to save **Westminster-School** (that great and known Seminary of **Royallists**) from that Destruction which the **Presbyterians**, and **Independents** menaced it with: And my Master shall witnesse how I interceded for **Him**. 'Twas I brought the **Engagement** down to **Oxford** (though I took it not; being an Under-Graduate) and having got **Doctor S. F.** and **Doctor R.** to be turned out, I saved the remains of the **Cavaliers** in **Christ-Church**, and **Queens Colledg**, and gave them

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them an opportunity to live securely, - and Educate others in their Principles. All the retribution I could make to my generous Patron, for gratifying a poor Stripling, and permitting him to be Grateful, was, To promise, if ever I were able, to serve him effectually. Which I did (maugre the Power and Greatness of the Presbyterians) in opposing Doctor J. W. who was then the Glory and Pride of that Party. Afterwards, to terrifie the Presbyterians, and make them more Complacential, I writ those so Invidious Queries; yet withall, protested that they contain no Tenets of mine, (for I knew they were not defensible against the Learned and Indictious Episcoparians: Though they had force and address enough against the more Ignorant Presbyterians) but were writ to excuse those who had made those to be their Assertions, which were my Doubts. This I declared in the Preface: yet would not Ecebolius take notice thereof, to the end I might seem more Dotous, and that I might be upbraided with contradicting my self: Which I am very glad I doe: And that my Principles (if those be them) are as much changed as my Hair. In fine, (for I would not be tedious about these Impertinences) whatsoever I writ, was against the Presbyterian Clergg, the Presbyterian Universities, the Usurpations of Oliver and Richard. Against his Majesty, or his Father, or the Church of England, there is so little expressly, that less could not be said by One of that Side: And to have had any one so Active in those times, and to do what I did, 'tis not to be doubted but his Majesty would have dispensed with it, and acknowledged my Serviceableness. Could I but assume the Impudence of those Cromwellians and Renegadoes, and tell you Renegadoes, I did all this for to facilitate the Kings returne, how plausible would it seem? But though I knew the tendency thereof, I scorn to say, This was my Designe: I say, I served my Patron therein; and bore no Malice to the Royalists, who were then Ejected out of the Universities, & all Churches. Had I not contributed to those Imbroylments, perhaps things had not been in the same condition as they are in now; And Ecebolius (as well as others my most bitter Adversaries) had been Praying, and Preaching, as before: I prepared those Algerines to repent, and to Conforme; and you may, if you please, put the Latitudinarians (upon whom neither Religion, Morality, or Generosity have any Obligation) into a condition to betray you again. In the mean time, I beseech you, Generous Episcoparians, not to make your selves Instruments for their Rage, nor suffer them by your Means to revenge upon me the Affronts done to the Presbyterians,

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ans, Oliver, and Richard Cromwell: Think not that they love you, or the Government: Nothing is dear to them but themselves: Nor are they swayed by any thing but Interest and Ambition: They attend to Opportunities, not Principles; and value not Right, but Fortune and Power. If they make it a Gallantry of Temper in me, to have reviled (in those days) Doctor J. W. and Mr. R. B. If it be Hypocrisie to defend the Monarchy, Religion, and Universities of this Nation: What Bottom do you stand on? Or do you expect to be served? Mr. R. B. in his Saints everlasting Rest, (not to mention his Key for Catholics) hath transferred Mr. Pym, and Hambden into Heaven: And Ecebolius tells you, that 'tis to be hoped, that on this side Tyburne there is not one whose Crimes have transcended mine: Thus 'tis made a more heinous Fault to have opposed the Right Presbyterians, Oliver, and Richard Cromwell, than to have acted in the first War, to have brought the late King to the Block, or to have cut off his Head. Sir H. V. was no Regicide: I was not concerned in all those times: I never made any Application or Poem to the Renowned Prince Oliver, nor insinuated my self into the Court of him, or his Son. When it pleased Almighty God to restore so happily his Majesty; I made early and voluntary Applications to the Bishop of Winton (that now is), for his Protection in my Retirement, assuring his Lordship of an inviolate Passive Obedience, which was all I could or would pay till the Covenant were renounced: He hath it under my Hand, and higher streins than these. I need not recite either the Kindnesses of that Reverend Prelate unto me, or his Majesties Favours at my going to Jamaica: 'Tis enough to say, that I was not deceived in the Opinion I always had concerning the Generosity of the Royalists. When the Restoration of the Bishops, and of the Church of England had revived me; at the first motion of the aforesaid Right Reverend Father in God, and at the first opportunity I ever had in my Life, I received Confirmation publicly at his Hands: And immediately took occasion to publish a Treatise of Bartholomæus Casa paraphrastically translated: And in the Dedication thereof, to that Loyal Gentleman Sir Ch. Littleton declare; "I have, at length, removed all the Umbrages I ever lay under: I have joyned my self to the Church of England; not only upon the account of it's being publicly imposed (which, in things Indifferent, is no small consideration: as I learned from the Scottish Transactions at Perth) but because

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“it is the least defining, and consequently the most comprehensive,
 “and fitting to be National: Wherein any unprejudiced Person
 “(not resolved to mistake particular mens Actions or Opinions,
 “for Church-Principles and Errours) may observe all those Cir-
 “cumstances to continue in order to the promotion of Sober Piety,
 “which the Angels proclaimed at the Birth of the World’s Savi-
 “our, viz. Glory to God in the highest, Peace on Earth, and
 “Good will towards men. In fine, it bears the Impress of what
 “is Ancient and Apostolick, as well as True: I always had a Re-
 “verence for the Primitive Christians, and it is with a Sincerity
 “not unbecoming them, that I thus declare my self. — Thus
 did He unrequested declare himself, most Generous and Candid
 Episcoparians, who pleaded for your Toleration, when you
 were in distress, and when his Adversaries were Praying, Preach-
 ing, and Acting against you, and Mr. R. B. writ his Key for
 Catholics: Thus He declared three Years and more, before Ece-
 bolius published his Sermon upon the Kings Murder: Thus He de-
 clared, without any Hope of Advancement, or other ends, than to
 live as became a Peaceable and Quiet Subject, and Son of the
 Church. If after all this; if after the taking of the Oaths of
 Allegiance and Supremacy, and the having done all that the King
 and Church required, I have not yielded you sufficient satisfaction;
 pardon me, if I say I understand not what is necessary to the
 Civil, and Ecclesiastical Peace; and you do exceed the Prece-
 dents of any History, or any Policy, which I am acquainted
 with.

Have my Ad-
 versaries?
 hath Mr. R. B.
 declared thus
 much in Print
 yet?

I think this Discourse to be the most pertinent Answer I could
 give to all the Railing of my Adversaries; without descending to
 Particulars, the Prosecution whereof (and even Repetition) would
 seem tedious, and in these times unseasonable. I now descend to o-
 ther Passages in Ecebolius. He said, my Head was Red-hot. By
 the difference of the Character, who would not imagine that he re-
 flected on me as Red-Headed? He hath now varied the Letter,
 and saith Red-hot; is not this the Sophistication of a gross Lye?
 He adds another: “If I had said, your Head was Red, I had
 “not been such a Lye neither; it was a direct Carrot, last time I
 “saw it. — It never was of other Colour than of the pale Hungary
 Gold; and in time altered to a Light Brown: ’Twas such as the
 Ancients did ascribe to Apollo and Mercury (though very thin)
 and as the wisest Nations have, and do desire to imitate by Arti-
 fice. — But his words were, his Head is Red-hot. Which is

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A Lye. And if it were not, so much to be said for that Colour, that I should not be ashamed thereof: Besides that some of the R. S. must suffer in the contumely, if it be one: Yet I neither take that, or the other of **Wald-Pate**, to carry any thing of Ignominy in them. He had also said, "In testimony of his great Love and Devotion to the King, he thus subscribes the Title of his rare Book of Chocolata, by Henry Stubs; Physician for his Majesty in the Island of Jamaica." Now (no doubt) he is Physician for his Majesty too in the Town of **Warwick**, and He intends to be Physician an for his Majesty in the City of **London**. — I could not but took upon this as a Lying Insinuation, as if I had dared to Usurp that Character, which indeed his Majesty did Honour me with: And who would not, as the words import, conclude, that either I was not Physician for his Majesty at Jamaica, or no doubt am now Physician for his Majesty at Warwick? which for any man else to say were a Lye; but in **Ecebolius** and **Vertuoso** 'tis only **Rattlerp**. Such **Rattlerp** it is when he speaks of my Spitting fire in a Feavour, and Reading by the Light of his Spittle. Whereas I neither had any Feavour these many Years, nor did ever such a Phenomenon befall me in one. Several Months after I had been sick of the Colick Bilious (which neither is a Feaver, nor was attended with any) upon the taking of a certain Course of Physick, and Indulging my self in the taking of **Snuffe** (I do not take it for a contumely, to be told of my **Snuffe-Box**) I observed that sometimes in the dark, as I blew my Nose, a stream of Light from my Eyes and Nostrils would issue out, and accompany the Pituita, even to the Ground; so that I could discover a Straw or Pinn. But what is all this to a Feaver-Fire, and Reading by it? If this be not a Lye, 'tis not more certain, that Truth is not to be spoken at all times, than that in this manner, it ought never to be spoke by a **Divine**; though **Ecebolius** may say any thing. All the Odious Stories in him and **D. M.** are thus disguised: I imparted this odde Phenomenon **de luce animalium** to one of the R. S. desiring to know his judgment, If it might be the effect of the Physick, or such **Snuffe** as I then took. From him 'tis now transmitted to **Ecebolius**: As many others (whom I know) contributed their Symbols to this **Farce**, as well as that of **D. M.s.** Yet doth **Ecebolius** deny that any ever saw his Writings before they were Printed: "No man, except my Transcriber, ever saw my Book till it was Printed. — This is a notorious Lye (except He Equivocate) for one of his Neighbours saw the blotted Manuscript of **Plus Ultra**. And he sent it to **Doctor More** to peruse, before it went to the Press: The Doctor

They have
ran'acked all
Corners, in-
quired into
the Cabinets
of Private per-
sons, & sought
out some
Letters of
Rattlerp writ-
ten by me, to
provide Ma-
terials for
these Libells.

told

told me he altered nothing indeed; but remitted it with a Proverb (for Proverbs and Poetry, he is equal to Mr. Croffe) to this purpose, as if Ecebolius had over-acted in the Dispute. This, Ecebolius confessed to me at Bathe, before Doctor F. C. and repeated the Adage, yet said, that he added nothing thereunto. Which I believe may be true: But yet hence it is evident, that he is a Lper. Except the Virtuosi be Dæmoniacks, two must have seen his Prefatory Answer long before it was Printed, and they above one hundred miles from Bathe: For they repeated it (and I from them to him at Bathe) and said they had seen it: And Doctor M. communicates some Heads of it, which I believe he had not by Inspiration: I could name more; but this is enough to satisfy the world of the Integrity of our Virtuoso, and shew what Credit he deserves. Yet I must add, that the Renegado at Bathe doth transmit his Papers, and hold strickt Correspondence with H. O. a London-Renegado, and he confers with the rest of the Renegadoes. Ecebolius did aske Doctor G. of Bathe (as his intimate Friend told me) to help him with an account of the New Inventions in Anatomy: Upon the Publication of Plus ultra, there was some mis-understanding about it: The Cause, I know. — About Mr. Croffe, that He hired me, the Gazettier of Chugh doth thus write. “The Reverend Disputer after this carehed and courted him highly; treated him at Bathe, and entertained him divers times with dear welcome at his House, so that at last He was fastned. I was at his House once, and no more: My welcome was as great as he could at that time express: But not so as to be reported dear unto him. I have elsewhere published the Truth, nor doth Ecebolius disprove it; but thus Apologizeth for himself. — “I insinuated what I thought, and had heard in other termes, and if I Lyed, in Thinking, and Hearing, and giving some Hints of what was reported, and was likely enough to be believed. This is all he replies for words so Positive and Peremptory: ‘Tis no Insinuation, but Assertion: No mention occurreth that He was told so, or Imagined so. This Defence recalls to my mind some Passages when Doctor F. C. did bring us two to an Enterview: I complained to him of a multitude of Lyes which he writ, and was going to Print: and desired he would not trouble the world with such Fopperies; for though they would give me Advantages over him, yet I had not Leisure to pursue them. I told him that He had written a Letter (of which I had seen the Original) to Doctor J. Gardiner, how I went from Bristol to Chue in the Company of a Quaker, and that Mr. Croffe and I fell out there, and had gone together by the Ears

Prefat. Ans.
P. 190.

In his Letters
P. 29.

He is a very
hopeful Intelli-
gent young
Gentleman, and
now a Scholar
at Cambridge.

Prefat. Answ.
p. 107.

(or to this effect) had not the Quaker parted us: That afterwards the Quaker and I came to Bristol, and there quarrelled, and abused each other. This he Comically related to his Friend; But this Relation differs much from that of my Dear Welcome at Chue. I told him the Person that accompanied me was no Quaker, though his Father was one: That I was willing to embrace his Overture of guiding me to Chue, being as great a Stranger to the Way, as unto him. That I was not ashamed to be in his Company, who was so well known to the Lord Brouncker, and the Bishop of Ch. In summ, I said I was confident that He was of the R. S. and in their Catalogue: He denied that, and upon the wager of a Guinny, the History was consulted: But it appeared not that He was there (though I was sure He had been at the R. S.) and I Waged it. This hath given Ecebolius so much matter of Triumph, whereas it was not a tryal of any Citation in the Book against Him. I convinced him before Doctor F. C. that we had no Quarrel at Chue, nor did I return to Bristol, but left Mr. M. S. to return alone, and departed streight to Bathe, and Warwick. He then replied, that He was told so. Just so D. M. having Printed, that no Civil woman would make use of me at Warwick; Defended himself, That he found now that All his Intelligence was not Gospel. Doth any man imagine it possible that Civil Society can subsist, if such Practices as these be tolerated? Thus Ecebolius tells us of an Oxford Doctor, that should say to this purpose: "That Mr. Stubs is so great a ——— that if he tell you that He was at such a Gentlemans Table, where this, or that Discourse happened; you are not to believe as much, as that he knows the Gentleman, or ever saw him. ——— Who so ever that Doctor were, and if ever there were so mistaken a Person, It did not become Ecebolius to publish it, who had seen me more than one Summer at Bathe, attending on the Healths of as Honourable Patients as any that Doctor ever was I think in company with. But not to insist on any more Lyes (which I am averse from pursuing, to save my self and Reader some trouble, and the Clergy that disgrace, lest it should be said of one of their number, He was the most Impudent Lper in the World). I do hereby demand Ecebolius for my Massal and Witme. By his own Promise he is obliged to render himself, and if there be any Generosity in my Adversaries, they will see that He performe it. After he had asked his half-Brother if he were a Thief, and brought his Certificate, and the Attestation of Jo. a Court to prove the Truth of his Relation of the Conference with Mr. Crosse (which yet I am so far from crediting, that

that I will prove out of Ecebolius himself that they attest a **Lye**, and that it was not **exactly** and **sincerely** such as it is reported) *he* Prefat. Answ. adds: "Thus I have proved my Relation for Mr. Stubb's Satis- P. 161.

"*faction*: And there is no other matter I have related concerning either of them, but I shall make it good, when-ever I am called upon to do it: Yea, if they please. I am ready to lay the issue of all here. If I cannot prove every matter of Fact, that I have printed about them; I shall humbly lay my Neck at their Feet: And if on the other hand, either of these *Adversaries* can prove one of those reproachful things they have alledged against me, I'll be their **Wassal** and their **Witame**.—— In his Letter now He writes. "I never said any thing of you, that I will not justify to a **Little**.—— I writ unto him upon the coming forth of the **Prefatory Answer**, and having shewed him more **Lyes**, and Specimina of his Ignorance than he now takes notice of; I told him to this purpose; 'Twas in vain to pester the world with Books of Rayling, that I demanded him for my **Wassal**, and would convince him **formally** where, and when he please, either before indifferent Persons at **Bathe**, or before the R. S. and my Lord **Brouncker**: And that, if He declined this, I would proceed to **Post** him at London, Oxford, Cambridg, Bathe, and Bristol. All the Answer I received is this in Print, which is as pertinent to what I demanded, as all He else writes is to what I object. I do here publicly make the same overture: I will openly in any convenient place, and before Intelligent Judges, prove him a **Lyer**, and so Ignorant and Illiterate a Fellow, that He is not fit to come into any Learned company, or to open his Mouth amongst them. I have already evinced his Ignorance: And all the Impertinence I am guilty of is this; that my Antitheses are Logically and Directly opposite to his. I will give an Instance or two, by which the Reader may judge.

p. 27.

Mr. Glanvill. Plus ultra. P. 7.

"The unfruitfulness of those Methods of Science, which in so many Centuries, never brought the World so much Practical Beneficial Knowledge, as would help towards the Cure of a Cut-Finger, is a palpable Argument, that they were Fundamental Mistakes, and the way was not right.

The

The Antithesis of H. S.

“ I suppose that the instance against the Ancient Methods of Science, since it is restrained to their Utility to cure a Cut-finger, is particularly directed to Physick: For, against any other Method of Science the Objection were ridiculous: And in opposition to this Assertion, I do say, I have proved, and will do it to any man, that

“ The Ancient Methods of Science have brought Physick to a great perfection, have explicated so the Causes of Diseases, and their Cures, and do so enable us to pass a further judgment upon new Plants, and other Discoveries in the Materia Medica, as well as new Diseases, besides that they direct us upon their Principles how to Compound Medicaments according to all Intentions, that neither were they heretofore, nor can any understanding Person (who acts on their Grounds) be at a loss for the Cure of a Cut-Finger.

Mr. Glanvill's Epicrisis.

Prefat. Answ.
P. III

“ Do I speak of the Methods of Physick, Chirurgery, or any Practical Art? If I had done so Master Stubbs had had reason. But it was nothing thus, I had not to do with any thing of that Nature, but was discoursing of the Infertility of the way of Notion and Dispute, concerning which I affirmed, that it produced no Practical useful Knowledge. — And unless he can prove that they did it by the direct Help and conduct of the Notional Disputing Physiology, he will not Sacrifice me to Publick Obligement here, nor say any thing in which I am concerned at all. “ Who ever denied that Diseases were cured by these Physicians, using Reason, Experience, and General Rules? But when do you prove that the Doctrine of the First Matter, and Forms, do directly, and of it self, lead to any Discovery by which they were assisted in Cures? This I told you was my meaning in these Words, which you force to a sense which best befits your malicious purpose.

Ibid p. 112.

In his Letter,
p. 12.

The Dialysis by H. S.

I did not expect that a man should pretend to Common Reason, and

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and yet by alteration of the terms to vary the Subject of the dispute. At first your Assertion was concerning all the Ancient Methods of Science, of which even the Empirical Physicians did follow one; The Methodists, or Corpuscularian Physicians another; and the Dogmatists or Hippocratick-Galenical Physicians, a third; You now recede from hence, and do not only exclude the two former from the Controversie, but the latter. You grant that Diseases and Cut-Fingers were cured by them, they using (or rather proceeding upon) Reason, Experience, and certain General Rules: But you say first, that you are not to be understood concerning Physick, or Chyrurgery or any Practical Art: Truly, had not you limited your Discourse to Physick, all the mixt Mathematicks had been concerned in the Quarrel: But I pray learn Logick, especially the Doctrine of Proposition, that you may know how the Predicate and Subject are modelled therein. I appeal to any intelligent University-man, whether I could understand you otherwise then about Practical knowledge, Physick, and Chyrurgery, since you demand a Practical effect, and that to be in Physick or Chyrurgery. The course you now take is,

Delphinum sylvis appingere, fluctibus apros.

You would have me prove that those things may produce Practical Knowledge, which consists in meer Speculation, and terminate there. If you ever were so good a Disputant as you pretend to have been, and mispent so much time in your first Studies at Oxford (which I believe you did not) you could not be unacquainted with the Distinctions between Speculative and Practical Sciences and Arts: And you would no more have expected from the first the Effects of the latter; than you (but alas! you have no insight

Plus ultra.
P. 125.

into the Mathematicks, as Doctor H. M. confessed to me lately; and the learned Prelate hath avowed to twenty persons; he to whom you sent your Book, and who sent you an obliging Letter of thanks, not for your performances, but your Present) then you would expect from pure Mathematicks the productions of the mixt. Keep your self to this Position that you were not to be understood of any particular Art, Physick, or Chyrurgery, and I will only say, you are *Hair-braind*, or a *Mad-Man*; as you call me. But you again change the state of the Question; for you demand I should prove that the Ancients did their Cures by the direct Help and Conduct of the Notional Disputing Physiology; and without I prove this, I do nothing. If the Physicians do their practical Science are not spoken of nor intended I am not concerned in the Quarrel: However to gratifie you with some Reply; I tell you, that if you mean by Physiology, that part of Natural Philosophy which is accommodated unto, and is the basis of the Dogmatical Physicians (in Italy and Spain especially) I do say that by the direct help and conduct thereof, they do their Cures; but I must tell you, that in a practical Science, or Art, 'tis not necessary that every part and parcel thereof be *Practical*, as you might have learned at Oxford: Neither is it any more necessary that to compleat Physick, every point be determined, and not disputed; then it is to Mathematicks that it be decided, whether there be any such thing in nature as a *Mathematical Point*, or *Surfaces*; or whether the *Circle* can be squared? Though it hath been disputed, and is still, *How Vision* is performed, and where? Yet do men See, and the Masters of Opticks do Wonders. But you again change the state of the Question, whilst you demand I should prove that the Doctrine of the first Matter and Forms, did, directly, and of it self lead to any discovery

covery, by which they were assisted in their Cures. I am hereby obliged to prove that a part shall do as much as the whole: That one Round of a Ladder shall mount a Man to the World in the Moon: Now that the hopes of flying thither are disappointed, I am to prove that the Ancient Methods of Science did enable to cure a cut-Finger: The Doctrine of the first Matter and Forms is neither a Method of Science, nor Science, though a part of Physiology. Who is now the impertinent? Where lies the charge of impudence.

Thus this Illiterate Ecebolius doth serve me in every Case, that he seems to reply unto almost: the Citation of Mr. Boyle is true (bating the error of the Press, whereupon he triumphs, I appointed it to be Printed by the Book he followed: And I derive no advantage from the Variation. For doth Mr. B. say the Spots were not there, but that during many Months, they appeared much seldomer, than it seems they did before. Is it a true Maxime in Natural Philosophy, which in Law sometimes passeth currently? Idem est non apparere & non esse. The Latine Edition of Mr. B. which was approved by him, and which I followed at first, says. Quæ [macula] per menses aliquot continuos tanto quam antea (uti videtur) rarius apparuere. He is thus cautious I believe, because any man that hath inquired into the Cælestial Phenomena, must know that 'tis Recorded how two or more using Telescopes at the same time, have related different Observations: At the same time that Galilæo and Scheiner made their Observations of those Spots, other Learned Inquisitive men could not see them, or not in the same places: For ought I can guess, at the same time that Mr. R.B. could not see them the dilligent Zucchius might see them with his Telescopes, which seem to be the most accurate

P. 145. Edit.
Amsterdam,
1667

Zucchius phi-
los. Opt. part
1. c. 18. Sect.
viii. p. 232.

Ricciol. Al-
magest. nov.
l. 10 Sect. 6.
p. 660. Prob.
50. See Mr.
Glanvill
if you can
find that in
the Index.

of all, because the most constant; nor doth it appear that Mr. R. B. by reason of the Weakness of his Eyes, or any in England understood their use so well as He. 'Tis his assertion, "Affero primo, satis constare con-
"sensum apparentiarum, sive in locis proxime, sive ea-
"dem die, sive pluribus longissime distitis; sive con-
"tinenter diebus a peritis Observatoribus adno-
tentur. It is not to be doubted but that skilful Artists understand the use and placing of Telescopes of all sorts: 'Tis not to be doubted, but that their Telescopes were as true when employed on terrene Objects at a due distance, with a proportionate Medium, and convenient apperture, as the Figure and confir-
mation of them did admit of, and was requisite to verifie their Observations on Earth: But even on Earth there would be no certainty of the exactness of their Discoveries, could we not by near approach and sen-
sible Examination convince our selves further. Be-
sides even in this Air there happens such secret Altera-
tions, that Kircher could on some dayes discover Aetna from the Isle of Malta, which on the next day when the Sky seemed much more clear, he could not see. Now if we apply all this to the Celestial Phænomena observed by Telescopes, concerning the distance whereof, the Medium and the Nature of the Objects and their Colours (whether Emphatical or Real) we can make no sensible and near Inquiries: How far are we short of all that Ecebolius doth prate of? What consequence is there in his Argument, that because they do not deceive us on Earth, therefore they will not in the Skie? In fine, I have demonstrated; That Telescopes are not so certain as our Eyes: That Telescopes do vary their Objects in some things, besides their proportions; nor are their Informations the same in all things, but the mentioned Difference. Which is contradictory to what this Ignoramus saith; and what-
ever

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ever Mr. Crosse said, (of which I am uncertain) 'tis a shame that this Arrogant should Talk or Write thus : and they may blush who were present at , and had a share in, and witnessed unto so ridiculous a piece of Conversation. I am to learn a new Logick, if my Antitheses be not contradictory to his Tenets : and if they be, let him confess they are pertinent, and probe them to be false : Which the Virtuoso saith, that he hath done : Since all he hath said, or is likely to say for ever, is already answered in his former account of my Spirits, and Performances. Now, Gentlemen, 'tis clear that the R. S. found out some of the Five Instruments so famed for advancing Knowledge. Now 'tis evident that the R. S. did first propose and practise the Transfusion of Blood : Who can any longer deny, but that the Romans held it Unlawful to look on the Entrails ? And that Chymistry was not in use with Aristotle and his Sectators ? Let it pass that Tertullian severely censured an inquisitive Physitian of his time for this practise [of Anatomy] and that one of the Popes (he takes it to be Boniface VIII.) threatned to Excommunicate those that should do any thing of this then abominable nature. All these things (and many Falsities more of which his Plus ultra yields me an Additional supply) are answered (and that pertinently, and as becomes a Virtuoso) by the Demonstration of the Malignity of my Temper, and Hypocrisie. I shewed how Eccebolius complained that all his first Studies at Oxford did not qualifie him for the World of Action and Business : I do here solemnly avow, that they have Ruined me : For I thereby am come to so gross Ignorance, as not to know what is pertinent, or what 'tis to oppose, and Answer : and for this Discovery, I am redevable to those generous men that have conversed with real Nature, undisguised with

In the Preface to his Letter.

Art

Art and Notion: I defie Aristotle, and renounce the Documents of his Rhetorick, wherein he told me that all the Bitterness and Exaggerations, whatever tended to raise Indignation or other passions in the Judges, were Impertinencies to the Cause in Debate and that the use of them to Judges was as ridiculous, as if one would try to make the Rule crooked, the which He would make use of. I will set down the Passage, to demonstrate to the World what a Fool he was, and what a crowde of Silly Fellowes were the Arcopagites of old; and I will set it down in Greek, though I know Eccebolius can do little more than read it (and therefore corrected the Erratum of Doctor More's Letter by committing two New ones: As also mistook the Text and title of his Sermon, about Reason and Religion) the Passage is this. Νῦν μὲν οἱ τὰς τέχνας ἡδὲ λόγων

συνήδυνες, ὅλγον πειπλύνοντες αὐτῆς μύθους αἱ γὰρ πῆσεις, ἐντεχνέοντες μόνον. Ἰδὲ δ' ἄλλα, περὶ δὲ οἱ ὅτι περὶ μὲν ἡδὲ ἐνδυμμάτων, ἔστιν λέγουσι, ὁ περὶ δὲ σῶμα τῆς πίστεως. Περὶ δὲ ἡδὲ ἔξω τῆς ψυχῆς, τὰ πλεῖστα περὶ ματινῶν διαβολὴ γάρ, καὶ ἔλεος, καὶ ὄργη, καὶ ταπεινὰ πάντα τῆς ψυχῆς. καὶ περὶ τῆς ψυχῆς ὅτι, ἀλλὰ οὕτως ὅτι διακρίνεται, εἰ περὶ πάσας ἢ τὰς κρίσεις, καθάπερ ἐν ἑκάστῳ νῦν ὅτι ἡδὲ πόλεως, καὶ μάστιγα ἐν ταῖς ἐνομιμαῖς, ὅτιν ἂν εἶχον διπλῶς ἀπάντες γάρ, οἱ μὲν, εἰδότες δὲν ἔτι τὰς νομῆς. ἀρρεῖται. οἱ δὲ, καὶ χράνται, καὶ κολύουσιν ἔξω τῆς ψυχῆς λέγειν, καθάπερ καὶ ἐν ἀρεῖαις πάσῃς ὁρθῶς τῶν νομῶν. καὶ γὰρ δὲ ὅτι διακρίνεται διακρίνεται, εἰς ὄργην περὶ ὁρῶντας, ἢ φθόνον, ἢ ἔλεον. ὁμοίον γὰρ καὶ εἶπε, ὅτι μέλλει χρῆσθαι κατόν, τὸ τοιοῦτον ποιήσει σπέρμα. Ἐπὶ δὲ φανερόν, ὅτι τῶ μὲν ἀμφιθεῖντες ὅτιν ἐστὶν ἔξω τῆς ψυχῆς τὸ πρᾶγμα, ὅτι ἐστὶν ἢ ἐκ ἐστὶν, ἢ γέγονεν ἢ ὅτι γέγονεν. Away with those Venerable Seats:

Confound that Notional Learning: Those Logical tricks about shuffling and ordering Propositions and Forms of Syllogisme, the distinctions of Secundum quid and Sympliciter, the prædications of Genus and Species. &c. are justly rejected, and railed upon by this Virtuoso: 'Tis they have betrayed me to this Baffle: 'Tis this hath made me turn over Indexes (and read Books, that I might know what to look for

in

in the Index of such and such an Author, and supply the defects and want of an Index) were the Mechanical Education received, and the Jesuits Morals substituted instead of Aristotle, and Thomas Aquinas (perhaps this was intended in the puny Society contrived at Bathe and Bristol, where new Hypotheses of Morality were to be proposed) then Lying (if serviceable) were as good as Truth, and Poor Robbins Almanack, Montelion, or Glanvill, as good Authors as Ricciolus, and Zucchius: The authority of Hadrianus Junius should be baffled by those who had not opportunity (or were negligent) to enquire exactly into the Original of Printing: And let the States of Zeal-land inquire, and judge never so uprightly concerning matter of Fact (done in their own Country,) and let Borellus publish it in Print; yet shall Metius have the glory of the first Invention, and Galileo be he that first applied it to the Stars. But upon second Thoughts, I believe that the World of business and Action is not such as Eccebolius talketh of; that the Mechanical Education is the most Extravagant Folly imaginable: That, to Preserve our old Religion, tis absolutely necessary that we retain our Old Learning: that there is a greater value to be placed on Controversial Divines, then our Virtuoso do allow of in their Letter against me; and perhaps one Jewel, Lawde, Andrews, Davenant, Whitaker, Chillingworth, Scaliger, Grotius, Selden, Casaubon, or Salmasius may ere long be more serviceable unto Monarchy than a Fleet of Ships, Thirty thousand Horse and Foot, or Three hundred Thousand Virtuosi: I do not reckon my Adversaries amongst the Military strength of the Nation, because they have abandoned their Standard: The Standard of English Eloquence: and when the people have a little more observed them, the Works which they have atchieved in Six Tears above all that e-

Plus Ultra
p. 42.

ver the Aristotelians ever effected, will only conduce to the Improvements of Raillery; We shall perceive that we have been out of the Way all this while; that the interests of a Lineal and Hereditary Monarchy are different from those of any Usurper; and if my Olibarian Adversaries may understand what Arts are subservient to the advancing, or continuing of a Cromwell, a Regicide: I am content to dissent once more from them in behalf of the present Monarchy, the Church of England, the Universities, and my own Faculty: And I think it is no ill Prayer for me to use, nor no argument of Faction and disloyalty to wish, that God would endow many others with such a malignity of Temper, and such Hypocrisy as I am now possessed with.

They hindered Four Books of mine in Michelmastern from being Licensed, though they contained nothing repugnant to the Monarchy, Church, or Good Manners

I shall not dismiss Eccebolius nor the Quarrel thus: I desire that all ingenious Persons would sollicit for me to have the Liberty of the Press; and importune the Virtuosi, that Eccebolius may render himself my Vassal, and do his homage and Swear Fealty: if he do so. Sir H. Spelman will tell him his Style is a Lewd Fellow, and a Villain: if he do not make good his word. He will deserve those Elogies upon another account. I will not make a Victim of him; the Christian Law hath put an end to all Sacrifices: And that which is Levitical, doth exclude Unclean Beasts from the number of Temple Offerings: I am not so angry as to turn Paynim, that I may be revenged on the R--- otherwise, since Doggs and Asses were of old sacrificed to Mars, and Black Sheep to Pluto; the World could not yield a more Agreeable Victim for either. He shall live for me (which is more than my Adversaries desire I should do) except the Devil claim his due, and then I ought to be just, if Old Proverbs may pass current amongst New Philosophers: They are more of kin, and a greater is the af-

affinity of the Name, than Stubb and Stubbs yet to shew my Pedigree, he tells me in the preface to the Preparatory Answer, of the Stubb's that were hanged for Treason: 'tis a Thin kindred that yields neither Whore nor Rogue: There are more of the Glanvills besides him that disgrace the Family: However, He should not have changed the Terms again, and given me Allegations of one Francis Stubbs that was Executed, and one John Stubbs, whom Cambden and Marten admire for that Bravery which he shewed at the Cutting off of his Hand: He took off his Hatt immediately thereupon with the remaining hand, and cryed God bless the Queen, nor did He suffer for Treason, his Book contained not so much of Reproaches against the Queen, as Reasons against her Marriage with a French Papist. Now let us observe from hence the Logick of our Virtuoso: How doth it appear that the Stubb's were hanged for Treason in former Reigns: Here is but one so Executed, and he not of my Name; and I am too little acquainted with my Pedigree to claim Kindred with either of the Persons alledged.

As to the Universities, although it matter not what Eccebolius saith in behalf of them, because he doth not understand What he commends; yet ought he to be blamed for detracting from them, lest it turn to the universal Detriment of the Monarchy and Religion. The passage I cited, is too odious to be thus excused: And even now he rejects their Logick, Natural Philosophy and Metaphysicks; each whereof he is unacquainted with. As much as he pretends to have studied Aristotle (whom I am sure he cannot Construe) and the Peripatetick Physiology, yet did he not know that Aristotle held the Gravity of the Ayre, and was therein followed by the Avincenists & Averroists, whose Authority alone was principally received in the Arabian

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Schools,

Schools, and generally amongst the Western Christians, till the Laterane Council put a check to the Averroists: As for Logick, he knows not what it is, either in the Practise or Notion; without Good skill therein, 'tis impossible for a man to benefit himself considerably in the Studies which our Virtuoso doth allow of: or without Metaphysicks to defend the Christian Religion and Protestancy, or explain the 39. Articles, Athanasian, and Nicene Creeds. But He spoke in my hearing with much contempt of the Thirty Nine Articles, saying, Three of them were calvinistical: And as to the Athanasian Creed, He doth never read it, and usually declaims against it; and told Doctor J. M. that he would Burn before he would read it. Thus he (not to speak of his curtailing the Common Prayer, and dis-use of the surplice lest the pulling it off should Discompose his Periwigg) observes his Subscriptions and the Laws of the Land! As to what he cites out of his Letter against Aristotle, had he proceeded the words would have been these: 'I blame not therefor the use of Aristotle in the Universities
 "among the Junior students, though I cannot approve
 the streightness and sloath of Elder Dijudicants, from
 "whom a more generous temper might be expected, than
 "to sit down in a contented despair of any further
 "Progress into Science, than hath been made by their
 "Idolized Sophy and depriving themselves and all
 "this World of their Liberty in Phylosophy a Sacra-
 "mental adherence to an Heathen Authority. And
 "I confess 'twas this, Pedantry, and Boyishness
 "of humour that drew from me those Reflections
 "I directed against Aristotle — This too must
 pass as allowable; must it? Pedantry and Boy-
 ishness of humour is fixed upon the Governours of
 the Universities, how Sage and Reverend soever they
 be, and what rank soever they hold in Church and
 State;

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State; The man of Stagiaa is said to be their Idolized
Sophy; and they charged to deprive themselves and all
this World of their Liberty in Philosophy by a Sa-
cramental adherence to an Heathen Authority.
I will not exaggerate this passage, but leave it to the
consideration of all Intelligent men, whether this be not
a Libelling of the Universities, and the King their
Founder, and from whose Authority their Statutes
have force. Is it fit that such an Ignorant, Inconfide-
rate Fellow as Ecebolius should thus animadvert upon
the Demeanour of those who are so much his Superiours,
who act according to their Statutes, and who under-
stand the danger of any Innovation in Learning under
an Hereditary Monarchy, as well as they do the Civil
Consequences it would draw upon the Church: They
are sensible of the present damage which it hath
done; they know the Character of us Islanders too
well, to comply with it: they know it is not requisite to
the Being, or Well-Being of an Ancient Govern-
ment to introduce such a charge; and that 'tis absolutely
necessary that this do oppose it. Besides the Fatal presi-
dence which Ancient History, & even the Records of
both Universities, to suggest in reference to Changes
of lesser moment, they know that the Papists do allow
this Philosophical Liberty to some of their Members
rather to distract us, than that they approve it; and
that their Church hath a power to remedy any in-
convenience, which we have not: That in their Col-
leges they reverence Aristotle as much as we: *
That the University of Lovaine hath censured Carte-
sian Philosophy; and that the Belgick Universities
have suppressed it publicly. I shall relate the degree of
Utrecht, because it contains the Motives they went up-
on, and the prejudice they found to arise from the New
Philosophy. "Ultrajecturiæ Academiae, judicium hoc
"est, Professores Acad. Utraij reijcere Novam istam

* See the
Judgment and
Reasons of the
Lovain Do-
ctors, in the
end of the se-
cond Edition
of Plempius's
Fundament.
Medica p 3: 5
&c.
Jac du bois
contra Wit-
ticbeum, in
pref.

"Philosophiam; primo quia veteri Philosophiæ, quam
 "Accademia toto orbem terrarum hætenus optimo con-
 "silio docuere, adversatur, ejusq; fundamenta sub-
 "vertit. De inde quia juventutem a vetere & sana
 "Philosophia avertit, impediq; quominus ad culmen
 "eruditionis provehatur, eo quod istius præsumptæ
 "Philosophiæ adminiculo technologemata in authorum
 "libris, Professorumq; lectionibus ac disputationibus usi-
 "tata percipere nequit. Postremo quod ex eadem con-
 "trariæ falsæ & absurdæ Opiniones partim conse-
 "quantur partim ab improvida juventute deduci pos-
 "sint pugnantes cum cæteris disciplinis ac facultari-
 "bus, atq; imprimis cum Orthodoxa Theologia. —

To what an height of Impudence and Arrogance it
 hath transported Ecebolius, is manifest: Nor are his
 Abettors less moderate: The History contains the like
 Suggestions as I have shewed: And the Anonymous
 Epistoler doth fly as high: 'Tis strange a Doctor of
 Divinity should write so; and more, that he should
 thus defend the passage I animadverted upon, in a
 Manuscript not yet published, but communicated to
 others; the reply to what I say (p. 42. and 29.) how he
 makes the Universities Lands alienable, is: They most
 "were designed for another kind of Worship than what
 "is now in use: And they may be changed in one
 "as well as in another Particular for the better.
 "But I speak not against useful and modest disputa-
 "tions, but against Barbarous and conceited
 Terms. — Reader, The Subject of the Que-
 stion betwixt him and me, is Controversial Divini-
 ty; not the Barbarous and conceited Terms there-
 in. Who can Dispute with such men as these?

It may not be impertinent to this subject for me to
 take notice of a passage of Mr J. E. concerning the Uni-
 versities, which though it be more favourable to Theo-
 logy than this last Author would allow of, yet did it not
 become

become Him to write, it being very derogatory to the Universities. — “That might redeem the World from the Insolency of so many Errours as we find by daily experience will not abide the Test, and yet retain their Tyranny; and that by the credit only of, and addresses of those many Fencing-Schools which have been built (not to name them Colledges) and endowed in all our Universities: I speak not here of those reverend and renowned Societies which converse with Theology, cultivate the Laws Municipal or forreign; but I deplore with just indignation, the supine neglect of the Other, amongst such numbers as are set apart for empty and less fruitful Speculations. — These are his words in the Dedication of Nadius’s Instructions concerning a Library (out of which Dedication I find T. S. to have stolen his Dedication to the King, only he multiplyed the Errours of his Original) out of which ’tis manifest, that Mr. J. E. did not understand the Constitution of our Universities; for we have no such Fencing-Schools (not to name them Colledges) built and endow’d to any such purpose as he speaks of: nor any numbers set apart for less fruitful and empty speculations, then the Virtuosi do pursue. ’Tis true, there is a Professour of Natural Philosophy in Oxford; and that the Scholars in the Course of their Studies, are obliged to employ a part of their time in Logick, Physicks, and Metaphysicks: And the reason, is because that the interest of our Monarchy is an Interest of Religion, and the support of the Religion established by Law is complicated with, and depends upon those Studies: ’Tis no less then impossible for any man to understand or manage the controversies with the Papists (and our Church is framed principally in opposition to them; as appears by our Articles, and Homolies: and the Monarchy subsists only by that opposition) without a deep knowledge of those Sciences: As any man must know who hath inspected nomore
than

*than the Controversy of the Eucharist, wherein the Do-
 ctrine of substance, & accidents, of Quantity distinct
 from Matter of Abication, &c. is so requisite to be un-
 derstood, that the protestants sustain the dispute with-
 out them: For if we change our Notions in Natural
 Philosophy, we then differ in the principals of
 discourse; and where men differ therein, tis im-
 possible for them to proceed. In all discourse there must
 be some common suppositions and definitions admit-
 ted of; and every man that is convinced, is convinced
 by somewhat which he already holds: By the change
 agitated, and now pursued, we make our selves inca-
 pable of convincing a papist: and considering the pre-
 judices of long Education, and the Authority of the
 Catholick Church, we must render our selves in their
 judgment as Perfect Fooles; and not be able to pro-
 ceed, is in this case all one as to be baffled. Besides, I
 cannot comprehend, and I do inculcate it to our Church
 and States-men, That no new discovery in Natural
 Philosophy can countervaile that dammage which the
 publick will receive by this change of Philosophical
 principles: for besides what we shall suffer in the pre-
 sent management of disputes, and those dangers which
 usually accompany all Changes (which are such as no
 wise man would introduce them, in a settled Govern-
 ment, though he comply therewith when they are unavoy-
 dable) we shall so disparage all the Reverend Fathers &
 Writers of our Church, and of precedent Ages, that
 their Authority and Repute will cease and what they
 have written become universally contemptible, when
 their Philosophical Notions shall be despised, and each
 similitude, or illustration seem ridiculous to every boy.
 'Tis most certain, that we know the inconveniencies of
 our present condition, and know we can subsist and
 flourish under them: but we do not know the incon-
 veni-*

veniences we shall run into, nor any besiting remedy for them.

I did in a private Letter upbraid Ecebolius with it--- in omitting a passage of Dr. H. Moor's Letter, wherein he declared, that He payed not any of those weekly Contributions, no nor so much as Admission-money; as was usual. I could not believe the Dr. so Disingenuous as to deny it, or equivocate, as he seemed to do in the Case: but he himself told me what was omitted, he was troubled at it, and protested upon the Faith of a Christian, that 'twas done without his Knowledge: and that He impowred Ecebolius to print the whole Letter. Let the World now judge of the demeanor of Ecebolius, imagine how He serves me, who thus abused his best Friend. He replies for himself, that he omitted that Meaning, because it seemed to be ridiculous. But he might have known, that I reckoned upon all those Catalogues of their Fellows, as false, where such were accounted on, as neither hold Correspondence with the rest, nor Pay the usual Contributions. All the mistake of mine was that I supposed him to have payed Admission-money; and so to have been heretofore of the R. S. Whereas He never payed so much as that; and the Fines is more manifest, that they pick up a company of men, and desire they would augment the Speciousness of their Catalogues, and ducquoy others; and they will ask no more of them. The excuse of Ecebolius is the more unpardonable, because at our Interview at Bathe, I told him this very thing before Doctor F. C.

P. 13.

See my Preface against T. S.

In his Letter, P. 12.

I forgot to take notice of one passage in Ecebolius about Flavius Goia, that He invented the Compass.

He

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P. 80.

He acknowledgeth that it is a mistake: but 'tis an error of the Press: it should have been Flavius, or Goia. He is confident it was so in his Copy: and that he was sensible of the mistake committed about it elsewhere. But I am confident the mistake was not in the Printer, but Author: for in his Plus ultra, He doth make Flavius Goia of Amalphis to be the discoverer of the Compass: whereas all the best Writers say, the inventor was either Flavius of Amalfi; or Iohannes Goia (or Gira) of Messina.

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